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L1            14 S (ADONITOL OR ARABITOL OR DULCITOL OR ERYTHRITOL OR GALACTITOL
L2             4 S (L-ADONITOL OR L-ARABITOL OR L-DULCITOL OR L-ERYTHRITOL OR L-
L3             2 S (DL-ADONITOL OR DL-ARABITOL OR DL-DULCITOL OR DL-ERYTHRITOL O
L4             5 S (D-ADONITOL OR D-ARABITOL OR D-DULCITOL OR D-ERYTHRITOL OR D-
L5            21 S L1-L4
               SAV L5 LEVY239/A

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L6         59833 S L5
L7        133629 S ADONITOL OR ARABITOL OR DULCITOL OR ERYTHRITOL OR GALACTITOL
L8          7536 S SUGAR(L)ALCOHOL
L9        152223 S L6-L8
               E LUHMAN C/AU
L10            9 S E4-E6
L11            0 S L9 AND L10
L12          118 S L9 AND (RUMEN OR ABOMAS?)
L13          183 S L9 AND RUMIN?
L14            0 S L9 AND (ANTILOCAPRID? OR ANTELOP?)
L15           35 S L9 AND (CAMEL OR CAMELID? OR ALPACA OR GUANACO? OR LLAMA OR V
L16           35 S L9 AND (CERVIDA? OR CARIBOU OR DEER OR ELK OR MOOSE OR MUNTJA
L17            0 S L9 AND (GIRAFF? OR OKAPI)
L18            0 S L9 AND (TRAGULID? OR CHEVROTAIN?)
L19          208 S L9 AND (BISON OR BOS OR BRAHMAN OR BUFFALO OR DUIKER OR FRIES
L20         4511 S L9 AND (BOVIN# OR CATTLE OR COW OR CALF OR BULL OR EWE OR GOA
L21         4729 S L13,L15,L16,L19,L20
L22          276 S L21 AND MILK
L23           20 S L22 AND L12
L24           13 S L23 AND (18 OR 17)/SC
L25            8 S L23 AND FEED?/CW
L26           13 S L23 AND STOMACH?/CW
L27           16 S L22 AND STOMACH
L28           23 S L23,L27
L29           17 S L28 AND (18 OR 17)/SC,SX
L30           13 S L28 AND FEED?
L31            6 S L28 AND (ROUGH? OR FODDER OR FORAG? OR SILAG?)
L32            4 S L28 AND NUTRI?
L33           18 S L29-L32
L34            5 S L28 NOT L33
L35            9 S L33 AND (SENECIO OR COAGUL? OR ANTIBIOTIC OR CONJUGAT? OR NET
L36            9 S L33 NOT L35
L37          185 S L9 AND DAIRY
L38           10 S L37 AND L12
L39            8 S L37 AND STOMACH
L40           10 S L38,L39
L41            4 S L40 NOT L33

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L36 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:291623 HCAPLUS
DN 129:80951
TI The effects of added **glycerol** or unprotected free fatty acids or a combination of the two on **silage** intake, **milk** production, **rumen** fermentation and diet digestibility in **cows** given grass **silage** based diets
AU Khalili, Hannele; Varvikko, Tuomo; Toivonen, Vesa; Hissa, Kari; Suvitie, Marjatta
CS Agricultural Research Centre of Finland, North-Savo Research Station, Maaninka, FIN-71750, Finland
SO Agric. Food Sci. Finl. (1997), 6(5-6), 349-362
CODEN: AFSFFB; ISSN: 1239-0992
PB Agricultural Research Centre of Finland
DT Journal
LA English
CC **17-12** (Food and Feed Chemistry)
AB The addn. of **glycerol** or free fatty acids either alone or in combination to conc. was studied for the effects on **feed** intake, **milk** prodn., **rumen** fermn., blood metabolites and diet digestibility in dairy **cows** given grass **silage** ad libitum. The study was conducted on 12 mid-lactating **cows**, 4 of them **ruminally** cannulated. Barley-based conc. (control diet, C) was given 7 kg/day as fed. In the other 3 diets, 36 g/kg of barley was replaced by **glycerol** (G) or a mixt. of free fatty acids (FA) or by a combination of the 2, making a total of 72 g/kg (GFA). The exptl. design consisted of balanced 4 .times. 4 Latin squares with a 2 .times. 2 factorial arrangement of diets: the effects of G, FA and G*FA interaction. The FA diets significantly decreased **silage** intake, increased **milk** yield, decreased **milk** protein content, increased the concns. of C18:0, C18:1, and C20:1 and decreased those of C8-16, and C18:3 fatty acids in **milk** fat. The FA diets also increased the concn. of nonesterified fatty acids in plasma, and decreased the digestibility of org. matter and neutral detergent fiber but increased that of fat. **Glycerol** decreased the molar proportion of acetate and increased the molar proportions of propionate and butyrate in the **rumen**, but the addn. of **glycerol** did not have any effect on **silage** intake, **milk** yield or **milk** compn. **Milk** yield was highest when **glycerol** and free fatty acids were given together, showing a pos. interaction.
ST **silage** intake **glycerol** fatty acid; **milk** prodn **glycerol** fatty acid; **rumen** fermn **glycerol** fatty acid; diet digestibility **glycerol** fatty acid
IT Detergents
Diet
Digestibility

Feeding experiment
Fermentation
Lactation
Milk
Plasma (blood)
Stomach (**ruminant**)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Fatty acids, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Proteins (general), biological studies
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Fats and Glyceridic oils, biological studies
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT **Milk** fat
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT **Silage**
(grass; effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Grass (Poaceae)
(**silage**; effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT **56-81-5**, **Glycerol**, biological studies 64-19-7, Acetic acid, biological studies 79-09-4, Propionic acid, biological studies 107-92-6, Butyric acid, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

L36 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1993:58598 HCAPLUS
DN 118:58598
TI Effects of **abomasal** protein and energy supply on wool growth in **Merino sheep**
AU Reis, P. J.; Tunks, D. A.; Munro, S. G.
CS Div. Anim. Prod., CSIRO, Blacktown, 2148, Australia
SO Aust. J. Agric. Res. (1992), 43(6), 1353-66
CODEN: AJAEA9; ISSN: 0004-9409
DT Journal

LA English
CC **18-3** (Animal Nutrition)
Section cross-reference(s): 13
AB The relative importance for wool growth of energy-yielding **nutrients** compared with amino acids required for incorporation into wool proteins was assessed in an expt. in which most **nutrients** were supplied via the **abomasum**. Nine **nutritional** treatments, providing 3 levels of protein (53, 99, and 145 g/day) to the intestines at 3 levels of energy (5.2, 7.5, and 9.7 MJ/day), were given to 12 **Merino sheep** during 3 consecutive periods of 3 wk in a balanced lattice design. **Abomasal nutrients** consisted of varying proportions of casein, whole **milk**, glucose, and **glycerol**. There was a large effect of protein supply on all components of wool growth, but there was no significant effect of energy. There was a significant interaction between the effects of protein and energy supply on diam., length, growth rate, and vol. of wool, but it was small relative to the main effect of protein. Extra energy appeared to enhance wool growth at the highest level of protein but reduce it at the lowest level of protein. The concn. of urea, cystine, methionine, and other essential amino acids in plasma increased with protein level. Increasing energy supply reduced the concn. of urea and essential amino acids in plasma but not that of cystine or methionine. The expt. confirmed the major role of amino acid supply in controlling wool growth but indicated that there may be a small interaction with energy supply.
ST **abomasum** protein energy **sheep** wool growth; amino acid **nutrition sheep** wool
IT **Sheep**
(**abomasal** supply of proteins and energy to, amino acid **nutrition** and wool growth response to)
IT Animal **nutrition**
(amino acids in, of **sheep**, wool growth response to **abomasal** supply of energy and proteins in relation to)
IT Amino acids, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(in **nutrition**, of **sheep**, wool growth response to **abomasal** supply of energy and proteins in relation to)
IT Wool
(protein and energy supply through **abomasum** effect on)
IT Proteins, biological studies
(wool growth in **sheep** response to **abomasal** supply of energy and)
IT **Feed** energy
(wool growth in **sheep** response to **abomasal** supply of proteins and)
IT **Stomach, ruminant**
(**abomasum**, protein and energy supply through, in **sheep**, wool growth in relation to)
IT Amino acids, biological studies
(essential, of blood plasma, of **sheep**, **abomasal** supply of energy and proteins effect on)
IT 56-89-3, Cystine, biological studies 63-68-3, Methionine, biological studies
(of blood plasma, of **sheep**, **abomasal** supply of energy and proteins effect on)

L36 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1992:425303 HCAPLUS
DN 117:25303
TI Infusion of long-chain fatty acids varying in saturation and chain length into the **abomasum** of lactating dairy **cows**
AU Drackley, J. K.; Klusmeyer, T. H.; Trusk, A. M.; Clark, J. H.
CS Dep. Anim. Sci., Univ. Illinois, Urbana, IL, 61801, USA
SO J. Dairy Sci. (1992), 75(6), 1517-26
CODEN: JDSCAE; ISSN: 0022-0302

DT Journal
LA English
CC **18-5** (Animal Nutrition)
AB Free long-chain fatty acids were infused into the **abomasum** of lactating dairy **cows** to det. postruminal effects on **feed** intake, prodn. and compn. of **milk**, **nutrient** digestibilities, and metabolites in blood. Four **Holstein** **cows** fitted with **ruminal** cannulas were used in a 4 .times. 4 Latin square design with 14-day periods. Treatments were **abomasal** infusions of (1) control, 168 g/day of meat solubles (carrier for fatty acids), (2) control plus 450 g/day of mostly satd. fatty acids (C16:C18 = 0.75), (3) control plus 450 g/day of a mixt. of satd. and unsatd. fatty acids (C16:C18 = 0.40), and (4) control plus 450 g/day of mostly unsatd. fatty acids (C16:C18 = 0.11). Prodn. of **milk** and **milk** components, dry matter intake, and intake of digestible energy decreased linearly as unsatn. and chain length of infused fatty acids increased. Percentages of fat, CP, and SNF in **milk** and total tract apparent digestibilities of DM, OM, ADF, NDF, energy, and fatty acids were not affected significantly by treatments. Infusing fatty acids decreased proportions and yields of short- and medium-chain fatty acids and increased proportions and yields of unsatd. C18 fatty acids in **milk** fat. Increasing unsatn. and chain length of infused fatty acids linearly decreased proportion and yield of palmitic acid but increased proportions and yields of polyunsatd. C18 fatty acids in **milk** fat. Infusing fatty acids increased concns. of nonessential fatty acids and cholesterol in blood plasma. The profile of fatty acids reaching the intestine may be an important determinant of responses to supplemental fats fed to lactating dairy **cows**.
ST **cow milk** compn **abomasum** fatty acid
IT **Cattle**
(long-chain fatty acid **abomasal** infusion effect on dairy **cows**)
IT **Feed** energy
(**milk** prodn. and compn. in **cows** in relation to level of, **abomasal** fatty acids in relation to)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(of **milk** of **cows**, **abomasal** long-chain fatty acid infusion effect on)
IT Proteins, biological studies
RL: BIOL (Biological study)
(of **milk** of **cows**, **abomasal** long-chain fatty acids infusion effect on)
IT **Milk**
(prodn. and compn. of, **abomasal** long-chain fatty acid infusion effect on)
IT **Stomach, ruminant**
(**abomasum**, long-chain fatty acid infusion into, of **cows**, **milk** prodn. and compn. response to)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(long-chain, **abomasal** infusion of, in **cows**, **milk** prodn. and compn. response to)
IT 7727-37-9, Nitrogen, biological studies
RL: BIOL (Biological study)
(nonprotein, of **milk** of **cows**, **abomasal** long-chain fatty acid infusion effect on)
IT **56-81-5**, **Glycerol**, biological studies 57-10-3, Palmitic acid, biological studies 57-11-4, Stearic acid, biological studies 57-88-5, Cholesterol, biological studies 60-33-3, Linoleic acid, biological studies 107-92-6, Butyric acid, biological studies 112-80-1, Oleic acid, biological studies 124-07-2, Caprylic acid, biological studies 142-62-1, Caproic acid, biological studies 143-07-7, Lauric acid, biological studies 334-48-5, Capric acid 373-49-9, Palmitoleic acid 463-40-1, Linolenic acid 506-12-7, Margaric acid 544-63-8, Myristic acid, biological studies 1002-84-2,

Pentadecanoic acid 26444-03-1, Tetradecenoic acid
RL: BIOL (Biological study)
(of **milk** of **cows**, **abomasal** long-chain fatty acid infusion effect on)

L36 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1991:678696 HCAPLUS
DN 115:278696
TI Effect of **glycerol** supplementation to the diet of dairy **cows** on **milk** production and some metabolic parameters
AU Remond, B.; Rouel, J.; Ollier, A.
CS Lab. Rech. Lactation Elevage Ruminants, INRA, Saint-Genes-Champanelle, 63122, Fr.
SO Ann. Zootech. (1991), 40(2), 59-66
CODEN: AZOOAH; ISSN: 0003-424X
DT Journal
LA French
CC **18-4** (Animal Nutrition)
AB In 3 trials (57 **Holstein** lactating **cows** in total), 2 of which were carried out at the beginning of lactation, 190-610 g **glycerol** was added to the ration daily in substitution for the same quantity of conc. Animals were fed according to stds., with diets based on grass **silage** and hay + **fodder** beets. **Glycerol** supply had no effect on **milk** yield and compn. and on food intake (measured in 1 trial). It increased the proportion of propionic and butyric acids in the volatile fatty acid mixt. of the **rumen** fluid to the detriment of acetic acid. In blood plasma, it increased 3-hydroxybutyrate concn. and decreased glycemia (1 trial). Addn. of **glycerol** to the diet does not appear to be effective in avoiding ketosis in dairy **cows** when used at these doses.
ST **glycerol feed cow milk** metab; **rumen** metab **cow feed glycerol**
IT **Cattle**
(**feeding** expt. on **cows**, with **glycerol**, productivity and metab. in relation to)
IT **Stomach** content, **ruminant**
(fermn. by, of **cow**, dietary **glycerol** effect on)
IT Blood plasma
(metabolic indexes of, of **cows**, dietary **glycerol** effect on)
IT **Milk**
(prodn. of, **feeding** expt. with **glycerol** on)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(volatile, of **rumen** content of **cows**, dietary **glycerol** effect on)
IT **Feeding** experiment
(with **glycerol**, on **cows**, metab. and **milk** prodn. in relation to)
IT **56-81-5**, **Glycerol**, biological studies
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(**feeding** expt. with, on **cows**, metab. and **milk** prodn. in relation to)
IT 300-85-6, 3-Hydroxybutyric acid
RL: BIOL (Biological study)
(of blood plasma of **cows**, dietary **glycerol** effect on)
IT 64-19-7, Acetic acid, biological studies 79-09-4, Propionic acid, biological studies 107-92-6, Butyric acid, biological studies
RL: BIOL (Biological study)
(of **rumen** content of **cows**, dietary **glycerol** effect on)

L36 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1989:113574 HCAPLUS
DN 110:113574

TI A comparison of the fatty acid composition of blood and **milk** fat during recovery from **milk** fat depression by high-**roughage feeding** or by addition of sodium bicarbonate

AU Van Beukelen, P.; Wensing, T.; Breukink, H. J.
CS Clin. Large Anim. Med., State Univ., Utrecht, Neth.

SO J. Anim. Physiol. Anim. Nutr. (1988), 60(4), 188-96
CODEN: JAPNEF
DT Journal
LA English
CC **18-7** (Animal Nutrition)

AB **Feeding** a high-conc. diet with extruded corn to high producing **cows** resulted in **milk** fat depression. Recovery was partially achieved by increasing the fibrous content of the diet or by sodium bicarbonate addn. to the high-conc. diet. Only minor variations in blood **glycerol** and nonesterified fatty acid concns. were obsd. High-conc. **feeding** resulted in an increase in C18:2 and a decrease in C16:0, C18:0, and C18:1 in percentages of the total amt. of fatty acids in the blood lipids. Sodium bicarbonate-induced recovery was accompanied by a further increase in C18:2, whereas a decrease was found during recovery affected by a high-**roughage** diet. In **milk** fat, a decrease of C18:0 was established concurrently with the occurrence of **milk** fat depression, sometimes accompanied by increases in C18:1. High-**roughage feeding** and sodium bicarbonate treatment resulted in abolition of these changes in **milk** fat. The contrast in changes of the fatty acid compn. in blood and **milk** fat during sodium bicarbonate treatment suggests that sodium bicarbonate does not only effect changes in the **rumen**, but also in fatty acid metab. in the udder.

ST sodium bicarbonate **cow milk** fat; fatty acid blood **milk cow roughage**

IT Dietary fiber
(fatty acids of blood lipids and **milk** fat of **cows** during recovery from **milk** fat depression response to dietary)

IT **Cattle**
(fatty acids of blood lipids of **cows**, during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT Lipids, biological studies
RL: BIOL (Biological study)
(fatty acids of, of blood of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT Fatty acids, biological studies
RL: BIOL (Biological study)
(of lipids of blood and **milk** fat, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate effect on)

IT **Milk**
(prodn. of, sodium bicarbonate and **roughage feeds** effect on)

IT **Feeding** experiment
(with sodium bicarbonate and **roughage feeds**, on **cows**, fatty acids of **milk** fat and blood lipids in relation to)

IT Fats, biological studies
RL: BIOL (Biological study)
(**milk**, fatty acids of, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 144-55-8P, Sodium bicarbonate, biological studies
RL: BIOL (Biological study); PREP (Preparation)
(fatty acids of blood lipids and **milk** fat of **cows** during recovery from **milk** fat depression response to dietary)

IT 57-10-3P, Hexadecanoic acid, biological studies 57-11-4P, C18:0, biological studies 112-80-1P, 9-Octadecenoic acid (Z)-, biological studies

RL: BIOL (Biological study); PREP (Preparation)
(of lipids of blood and **milk** fat, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 60-33-3P, 9,12-Octadecadienoic acid (Z,Z)-, biological studies
RL: BIOL (Biological study); PREP (Preparation)
(of lipids, of blood of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 463-40-1P
RL: PREP (Preparation)
(of lipids, of blood of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 143-07-7P, Dodecanoic acid, biological studies 544-63-8P, Tetradecanoic acid, biological studies
RL: BIOL (Biological study); PREP (Preparation)
(of **milk** fat, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

L36 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1989:22732 HCAPLUS
DN 110:22732
TI Effect of dietary energy source and concentration on performance of dairy **cows** during early lactation
AU Eastridge, M. L.; Cunningham, M. D.; Patterson, J. A.
CS Dep. Anim. Sci., Purdue Univ., West Lafayette, IN, 47907, USA
SO J. Dairy Sci. (1988), 71(11), 2959-66
CODEN: JDSCAE; ISSN: 0022-0302
DT Journal
LA English
CC **18-4** (Animal Nutrition)
AB **Holstein** heifers were placed into groups according to projected calving date, prepartum body wt., and prepartum condition score. Following parturition, animals within each group were assigned randomly to 1 of 3 diets and remined on the expt. for 45 days. Diets consisted of **forage**:conc. ratios of 72:28, 53:47, or 73:27 (isocaloric to the 53:47 ratio by the addn. of 8% soybean oil). Diets were fed twice daily as total mixed rations. Blood, **rumen** fluid, and adipose tissue were sampled at 7, 5, 20, and 45 days of lactation. Performance means were, resp.: dry matter intake (kg/day) 13.9, 14.9, and 12.4; **milk** (kg/day) 24.5, 25.8, and 18.6; **milk** fat (%) 3.77, 3.59, and 3.62; **milk** protein (%) 3.03, 2.99, and 3.11; body condition score (0 = thin, 5 = fat) 1.53, 1.87, and 1.99; and body wt. (kg) 514, 523, and 505. **Cows** fed soybean oil had higher **ruminal** isoacids than those fed the other diets and higher acetate than **cows** on the 53:47 diet. Diets had no effect on blood metabolites or activity of adipose **glycerol**-phosphate dehydrogenase (EC 1.1.1.8). The soybean oil diet reduced short-chain fatty acids and increased long-chain fatty acids in **milk**. **Feed** intake and **milk** prodn. were highest for **cows** receiving the 53:47 diet. As expected, animals on the 72:28 diet did not consume adequate energy to maintain high prodn. which concurrently resulted in lower body condition scores.
ST **feed** energy source **cow milk**
IT **Milk**
(compn. and prodn. of, dietary energy sources effect on)
IT Soybean oil
RL: PROC (Process)
(fatty acids in **rumen** after **feeding** of, to **cattle**)
IT **Cattle**
(**feeding** expt. on lactating **cows**, with dietary energy source)
IT **Feed** energy

(**feeding** expt. with source of, on lactating **cows**)
IT **Stomach** content, **ruminant**
(fermn. by, of **cows**, dietary energy source effect on)
IT Proteins, biological studies
RL: BIOL (Biological study)
(of **milk**, of **cows**, dietary energy source effect on)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(volatile, of **rumen** of **cows**, dietary energy source effect on)
IT **Feeding** experiment
(with dietary energy source, on lactating **cows**)
IT **Feed**
(conc., **cows** performance response to dietary level of)
IT **Feed**
(**forage**, **cows** performance response to dietary level of)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(long-chain, of **milk**, dietary energy source effect on)
IT Fats, biological studies
RL: BIOL (Biological study)
(**milk**, dietary energy source effect on)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(short-chain, of **milk**, dietary energy source effect on)
IT 64-19-7, Acetic acid, biological studies 79-31-2, Isobutyric acid 503-74-2
RL: BIOL (Biological study)
(of **rumen** fluid, of **cows**, dietary energy source effect on)

L36 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1988:111116 HCAPLUS
DN 108:111116
TI Lactation response to short-term **abomasal** infusion of choline, **inositol**, and soy lecithin
AU Grummer, R. R.; Armentano, L. E.; Marcus, M. S.
CS Dep. Dairy Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO J. Dairy Sci. (1987), 70(12), 2518-24
CODEN: JDSCAE; ISSN: 0022-0302
DT Journal
LA English
CC **18-5** (Animal Nutrition)
AB Five lactating **Holstein cows** averaging 13 wk postpartum were used in a Latin square design to examine the effect of daily **abomasal** infusion of choline (22 g), myo-**inositol** (37 g), soy oil (325 mL), or crude soy lecithin (900 mL) on lactation performance. Dry matter intake was reduced by infusion of soy lecithin as compared with infusion of water (18.1 and 21.1 kg/day, resp.). Plasma .beta.-hydroxybutyrate concn. was increased when **cows** received the myo-**inositol** or soy lecithin infusion, and plasma glucose was lower when **cows** received the choline or soy lecithin treatment. Infusion of soy lecithin caused a .apprx.2-fold increase in plasma triglyceride-rich lipoprotein concn. **Milk** fat percentage and **milk** fat yield were greater during soy lecithin infusion (3.54%, 1.11 kg/day) than during water (3.09%, 0.98 kg/day) or soy oil (3.06%, 0.98 kg/day) infusion. This resulted in greater 3.5% FCM yield during soy lecithin infusion (31.6 kg/day) than during water (29.5 kg/day) or soy oil (29.6 kg/day) infusion. Infusion of phospholipid with triglyceride allowed more fatty acid to be infused without causing diarrhea. Infusion of triglyceride in the presence of phospholipid increased **milk** fat synthesis, whereas infusion of triglyceride alone did not.
ST choline **abomasum cow milk** fat;
inositol abomasum cow milk fat;

lecithin **abomasum cow milk** fat; **milk** fat **cow** choline **inositol** lecithin

IT Lipoproteins
(choline and **inositol** and lecithin **abomasal** infusions effect on, of blood plasma of **cows**)

IT Blood sugar
(choline and **inositol** and lecithin **abomasal** infusions effect on, of **cows**)

IT **Cattle**
(lactation by, **abomasal** choline and **inositol** and lecithin infusions effect on)

IT Glycerides, biological studies
Phospholipids, biological studies
Soybean oil
(lactation in **cows** response to **abomasal** infusion of)

IT **Milk**
(prodn. of, **abomasal** infusion of choline and **inositol** and lecithin effect on)

IT **Feeding** experiment
(with choline and **inositol** and lecithin by **abomasal** infusion, on lactation by **cows**)

IT **Stomach** content, **ruminant**
(**abomasal**, choline and **inositol** and lecithin of, lactation by **cows** response to)

IT Fats, biological studies
(**milk**, formation of, **abomasal** infusion of choline and **inositol** and lecithin effect on)

IT Lecithins
(soya, lactation in **cows** response to **abomasal** infusion of)

IT 62-49-7, Choline **87-89-8**, Myoinositol
(lactation in **cows** response to **abomasal** infusion of)

IT 300-85-6
(of blood plasma, of **cows**, **abomasal** choline and myoinositol and lecithin infusions effect on)

L36 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1978:5045 HCAPLUS
DN 88:5045
TI **Fodder** additive for **ruminants**
IN Merensalmi, Matti Johannes
PA Farmos Yhtyma Oy, Finland
SO Ger. Offen., 13 pp.
CODEN: GWXXBX
DT Patent
LA German
IC A23K001-16
CC **17-5** (Foods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2710930	A1	19770922	DE 1977-2710930	19770312
	DE 2710930	C2	19900927		
	FI 7600746	A	19770920	FI 1976-746	19760319
	FI 53394	B	19780131		
	FI 53394	C	19830607		
	SE 7702937	A	19770920	SE 1977-2937	19770315
	SE 426434	B	19830124		
	SE 426434	C	19830511		
	FR 2344233	A1	19771014	FR 1977-7602	19770315
	FR 2344233	B3	19800215		
	GB 1542802	A	19790328	GB 1977-10841	19770315
	CS 191333	P	19790629	CS 1977-1723	19770315
	CA 1101263	A1	19810519	CA 1977-274084	19770316

US 4127676	A	19781128	US 1977-778359	19770317
DK 7701212	A	19770920	DK 1977-1212	19770318
DK 146192	B	19830725		
DK 146192	C	19831227		
NO 7700966	A	19770920	NO 1977-966	19770318
NO 144444	B	19810525		
NO 144444	C	19810902		
NL 7702981	A	19770921	NL 1977-2981	19770318
DD 129613	Z	19780201	DD 1977-197928	19770318
SU 626678	D	19780930	SU 1977-2463649	19770318

PRAI FI 1976-746 19760319

AB A **feed** additive for **ruminants** is prepd. from C5 and (or) C6 **sugar alcs.**, molasses, and propylene glycol [57-55-6]. The additive increases blood glucose levels and **milk** prodn. in **cows**. Thus, a mixt. of **xylitol** [**87-99-0**] 18, **arabitol** [**2152-56-9**] 24, **mannitol** [**69-65-8**] 18, **sorbitol** [**50-70-4**] 9, **galactitol** [**608-66-2**] 7, **rhamnitol** [**488-28-8**] 7, reducing **sugars** 7, and other polyols 10% by wt. was approx. half digested in 24 h when incubated with **rumen** fluid. When fed to **cows**, the **sugar alc.** mixt. increased blood glucose levels from 3 to approx. 3.5 mM. The **sugar alcs.** also decreased **milk** fat content from a mean of 4.5 to 4%, and reduced the variability in fat content. A **cow** fed a mixt. of propylene glycol 10, Na propionate 5, **sugar alcs.** 40, and molasses 45% by wt. at 0.4 L daily had an increase in **milk** prodn. of 0.1 kg daily.

ST **sugar alc feed ruminant;** **milk feed sugar alc;** propylene glycol **feed milk**

IT Blood **sugar**
(of **cows**, **sugar alcs.** of **feed** increase of)

IT **Milk**
(prodn. of, **sugar alcs.** increase of)

IT **50-70-4**, biological studies 57-55-6, biological studies **69-65-8 87-99-0 488-28-8 608-66-2 2152-56-9**
(of **feed** additives for **cows**, blood glucose and **milk** prodn. increase by)

L36 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2000 ACS

AN 1972:84725 HCAPLUS

DN 76:84725

TI Preliminary evaluation of the addition of glucogenic materials to the rations of lactating **cows**

AU Fisher, L. J.; Erfle, J. D.; Sauer, F. D.

CS Res. Branch, Canada Dep. Agric., Ottawa, Ont., Can.

SO Can. J. Anim. Sci. (1971), 51(3), 721-7
CODEN: CNJNAT

DT Journal

LA English

CC **18** (Animal Nutrition)

AB Glutamate, succinate, propylene glycol, or **glycerol** were added to a basal conc. at 3.3% of air-dry **feed**. Each conc. was fed both ad libitum and in restricted amts. to 4 **cows** in early lactation. Dietary intake, **milk** yield and compn., molar proportions of **rumen** volatile fatty acids, and blood glucose, ketones, and plasma free fatty acids were used as criteria of effect of these supplements. Propylene glycol in the diet resulted in a lower intake of conc. compared with **glycerol** (11.44 vs. 14.30 kg/day) and significantly decreased **rumen** butyrate and plasma .beta.-hydroxybutyrate. Glutamate supplementation prevented the fall in **milk** fat content which occurred when the other 3 supplemented concs. were fed ad libitum, and this effect may have been related to the

REFERENCE 5: 132:295336

REFERENCE 6: 132:294370

REFERENCE 7: 132:293190

REFERENCE 8: 132:293023

REFERENCE 9: 132:292870

REFERENCE 10: 132:291125

=> fil biosis

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(FILE 'REGISTRY' ENTERED AT 08:01:53 ON 26 MAY 2000)

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L43       29038 S L5
L44       80270 S L7 OR L8 OR ARABINITOL OR MYOINOSITOL OR ISOINOSITOL OR GLUCI
L45       81020 S L43,L44
L46        4415 S L45 AND (85705 OR 85710 OR 85715 OR 85720 OR 85725 OR 85730 O
L47         310 S L45 AND (RUMIN? OR DAIRY)
L48          64 S L45 AND (CAMEL OR CAMELID? OR ALPACA OR GUANACO? OR LLAMA OR
L49         233 S L45 AND (BISON OR BOS OR BRAHMAN OR BUFFALO OR DUIKER OR FRIE
L50         128 S L49 AND (BOVIN# OR CATTLE OR COW OR CALF OR BULL OR EWE OR GO
L51        4601 S L46-L50
L52         283 S L51 AND MILK
L53          68 S L51 AND (RUMEN OR ABOMAS?)
L54           9 S L53 AND L52
L55         146 S 13518/CC AND L51
L56         334 S L52,L55
L57          46 S L56 AND 26504/CC
L58          12 S L56 AND 14001/CC
L59           8 S L57 AND L58
L60          20 S L54,L58,L59
L61          14 S L57 AND L60
L62           8 S L61 NOT (RAPESEED OR DISEASE OR ALFALFA OR SUMMER OR JEJUNUM)
L63          32 S L57 NOT L54,L58-L62
L64           8 S L63 AND (SUPPLEMENT? OR SORBITOL OR POLYOL OR GLUCOGEN?)/TI
L65          16 S L62,L64
L66           7 S L46 AND PRERUMIN?
L67           3 S L66 AND L65
L68           4 S L66 NOT L67
L69          16 S L65,L67
                E LUHMAN C/AU
L70          21 S E5-E6
L71           0 S L70 AND L45
L72           6 S L70 AND (DAIRY OR COW OR MILK)
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FILE 'BIOSIS' ENTERED AT 08:29:16 ON 26 MAY 2000

=> d all tot l69

L69 ANSWER 1 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1998:261023 BIOSIS
DN PREV199800261023
TI The effects of added **glycerol** or unprotected free fatty acids or a combination of the two on silage intake, **milk** production, **rumen** fermentation and diet digestibility in cows given grass silage based diets.
AU Khalili, Hannele (1); Varvikko, Tuomo; Toivonen, Vesa; Hissa, Kari; Suvitie, Marjatta
CS (1) Agric. Res. Cent. Finland, Anim. Production Res., FIN-31600 Jokioinen Finland
SO Agricultural and Food Science in Finland, (1997) Vol. 6, No. 5-6, pp. 349-362.
ISSN: 1239-0992.
DT Article
LA English
SL English; Finnish
AB The addition of **glycerol** or free fatty acids either alone or in combination to concentrate was studied for the effects on feed intake, **milk** production, **rumen** fermentation, blood metabolites and diet digestibility in **dairy** cows given grass silage ad libitum. The study was conducted on 12 mid-lactating cows, four of them **ruminally** cannulated. Barley-based concentrate (control diet, C) was given 7 kg/d as fed. In the other three diets, 36 g/kg of barley was replaced by **glycerol** (G) or a mixture of free fatty acids (FA) or by a combination of the two, making a total of 72 g/kg (GFA). The experimental design consisted of balanced 4 X 4 Latin squares with a 2 X 2 factorial arrangement of diets: the effects of G, FA and G*FA interaction. The FA diets significantly decreased silage intake, increased **milk** yield, decreased **milk** protein content, increased the concentrations of C18:0, C18:1, and C20:1 and decreased those of C8-16, and C18:3 fatty acids in **milk** fat. The FA diets also increased the concentration of nonesterified fatty acids in plasma, and decreased the digestibility of organic matter and neutral detergent fibre but increased that of fat. **Glycerol** decreased the molar proportion of acetate and increased the molar proportions of propionate and butyrate in the **rumen**, but the addition of **glycerol** did not have any effect on silage intake, **milk** yield or **milk** composition. **Milk** yield was highest when **glycerol** and free fatty acids were given together, showing a positive interaction.
CC Nutrition - General Studies, Nutritional Status and Methods *13202
Biochemical Studies - General *10060
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Digestive System - Physiology and Biochemistry *14004
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Major Concepts
Nutrition
IT Chemicals & Biochemicals
free fatty acids: unprotected; **glycerol**
IT Miscellaneous Descriptors
diet digestibility; grass silage based diet; **milk** production; organic matter; **rumen** fermentation; silage intake
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cow (Bovidae)
ORGN Organism Superterms
Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates
RN **56-81-5 (GLYCEROL)**

L69 ANSWER 2 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1995:337075 BIOSIS
DN PREV199598351375
TI Responses of newborn calves to oral fructose, **sorbitol**, or lactose **supplements**.
AU Becker, C. J. (1); Willett, L. B.; Hodge, M. A.; Allen, J. R.; Blanford, J. J.; Weiss, W. P.
CS (1) Ohio Agric. Res. Dev. Cent., Ohio State Univ., Wooster, OH USA
SO Journal of Dairy Science, (1995) Vol. 78, No. SUPPL. 1, pp. 233.
Meeting Info.: Ninetieth Annual Meeting of the American Dairy Science Association Ithaca, New York, USA June 25-28, 1995
ISSN: 0022-0302.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Carbohydrates 10068
Metabolism - Carbohydrates *13004
Nutrition - Carbohydrates *13220
Food Technology - Dairy Products *13518
Animal Production - Feeds and Feeding *26504
BC **Bovidae *85715**
IT Major Concepts
Animal Husbandry (Agriculture); Foods; Metabolism; Nutrition
IT Chemicals & Biochemicals
FRUCTOSE; **SORBITOL**; LACTOSE
IT Industry
dairy industry
IT Miscellaneous Descriptors
FEEDING; MEETING ABSTRACT; METABOLISM; SUPPLEMENTATION
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia ; Mammalia - Unspecified: Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
mammal (Mammalia - Unspecified); **Bovidae (Bovidae)**
ORGN Organism Superterms
animals; artiodactyls; chordates; mammals; nonhuman mammals; nonhuman vertebrates; vertebrates
RN 57-48-7Q (FRUCTOSE)
30237-26-4Q (FRUCTOSE)
50-70-4 (SORBITOL)
63-42-3 (LACTOSE)

L69 ANSWER 3 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1992:450547 BIOSIS
DN BA94:91947
TI EFFECT OF **GLYCEROL** SUPPLEMENTATION OF THE DIET OF **DAIRY** COWS ON **MILK** PRODUCTION AND SOME DIGESTIVE AND METABOLIC PARAMETERS.
AU REMOND B; ROUEL J; OLLIER A
CS INRA, LAB. DE RECHERCHE SUR LA LACATION ET L'ELEVAGE DES RUMINANTS, CLERMONT-FERRAND-THIEX, 63122 SAINT-GENES-CHAMPANELLE, FR.
SO ANN ZOOTECH (PARIS), (1991) 40 (2), 59-66.
CODEN: AZOOAH. ISSN: 0003-424X.
FS BA; OLD
LA French
AB In 3 trials (57 Holstein lactating cows in total), 2 of which were carried out at the beginning of lactation, 190-610 g **glycerol** were added to the ration daily in substitution for the same quantity of concentrate. Animals were fed according to standards, with diets based on grass silage and hay + fodder beet roots. **Glycerol** supply had no effect on **milk** yield and composition and on food intake (measured in 1 trial). It increased the proportion of propionic and butyric acids in the volatile fatty acid mixture of the **rumen** juice to the detriment of acetic acid. In blood plasma, it increased 3-hydroxybutyrate concentration and decreased glycemia (1 trial). Addition of

glycerol to the diet does not appear to be effective in avoiding ketosis in **dairy** cows when used at the same doses as in our trials.
CC Biochemical Studies - Lipids 10066
Metabolism - Lipids *13006
Nutrition - Lipids *13222
Digestive System - Physiology and Biochemistry *14004
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
Veterinary Science - General; Methods 38002
BC **Bovidae 85715**
IT Miscellaneous Descriptors
VOLATILE FATTY ACID CONTENT ANIMAL FEED LACTATION
RN **56-81-5 (GLYCEROL)**

L69 ANSWER 4 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1992:428724 BIOSIS
DN BA94:80849
TI EFFECTS OF **ABOMASAL** PROTEIN AND ENERGY SUPPLY ON WOOL GROWTH IN MERINO SHEEP.
AU REIS P J; TUNKS D A; MUNRO S G
CS DIV. ANIMAL PRODUCTION, CSIRO, P.O. BOX 239, BLACKTOWN N.S.W. 2148.
SO AUST J AGRIC RES, (1992) 43 (6), 1353-1366.
CODEN: AJAEA9. ISSN: 0004-9409.
FS BA; OLD
LA English
AB The relative importance for wool growth of energy-yielding nutrients compared with amino acids required for incorporation into wool proteins was assessed in an experiment in which most nutrients were supplied via the **abomasum**. Nine nutritional treatments, providing three levels of protein (53, 99 and 45 g/day) to the intestines at three levels of energy (5.2, 7.5 and 9.7 MJ/day), were given to 12 merino sheep during three consecutive periods of 3 weeks in a balance lattice design. **Abomasal** nutrients consisted of varying proportions of casein, whole **milk**, glucose and **glycerol**. There was large effect of protein supply on all components of wool growth, but there was no significant effect of energy. There was a significant interaction between the effects of protein and energy supply of diameter, length growth rate and volume of whole, but it was small relative to the main effect of protein. Extra energy appeared to enhance wool growth at the highest level of protein but reduce it at the lowest level of protein. The concentration of urea, cysteine, methionine and other essential amino acids in plasma increased with protein level. Increasing energy supply reduced the concentration of urea and essential amino acids in plasma but not that of cysteine or methionine. The experiment confirmed the major role of amino acid supply in controlling wool growth but indicated that there may be a small interaction with energy supply.
CC Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biophysics - Bioenergetics: Electron Transport and Oxidative Phosphorylation 10510
Metabolism - Energy and Respiratory Metabolism 13003
Metabolism - Proteins, Peptides and Amino Acids *13012
Nutrition - Proteins, Peptides and Amino Acids *13224
Integumentary System - Physiology and Biochemistry *18504
Animal Production - General; Methods *26502
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Miscellaneous Descriptors
MAMMAL CASEIN WHOLE **MILK** GLUCOSE **GLYCEROL** WOOL PROTEIN INCORPORATION WOOL INDUSTRY AGRICULTURE
RN 50-99-7 (GLUCOSE)
56-81-5 (GLYCEROL)

L69 ANSWER 5 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1989:219687 BIOSIS
DN BA87:111304

TI EFFECT OF DIETARY ENERGY SOURCE AND CONCENTRATION ON PERFORMANCE OF **DAIRY** COWS DURING EARLY LACTATION.
AU EASTRIDGE M L; CUNNINGHAM M D; PATTERSON J A
CS DEP. DAIRY SCI., OHIO STATE UNIV., 2027 COFFEY ROAD, COLUMBUS, OHIO 43210.
SO J DAIRY SCI, (1988) 71 (11), 2959-2966.
CODEN: JDSCAE. ISSN: 0022-0302.
FS BA; OLD
LA English
AB Eighteen Holstein heifers were placed into groups of 3 according to projected calving date, prepartum BW, and prepartum condition score. Following parturition, animals within each group were assigned randomly to one of three diets and remained on the experiment for 45 d. Diets consisted of forage:concentrate ratios of 72:28, 53:47, or 73:27 (isocaloric to the 53:47 ratio by addition of 8% soybean oil). Diets were fed twice daily as total mixed rations. Blood, **rumen** fluid, and adipose tissue were sampled at -7, 5, 20, and 45 d of lactation. Performance means were, respectively: DM intake (kg/d) 13.9, 14.9, and 12.4; **milk** (kg/d) 24.5, 25.8, and 18.6; **milk** fat (%) 3.77, 3.59, and 3.62; **milk** protein (%) 3.03, 2.99, and 3.11; body condition score (0 = thin, 5 = fat) 1.53, 1.87, and 1.99; and BW (kg) 514, 523, and 505. Cows fed soybean oil had higher **ruminal** isoacids than those fed the other diets and higher acetate than cows on the 53:47 diet. Diets had no effect on blood metabolites or activity of adipose **glycerol**-P dehydrogenase (EC 1.1.1.8). The soybean oil diet reduced short-chain fatty acids and increased long-chain fatty acids in **milk**. Feed intake and **milk** production were highest for cows receiving the 53:47 diet. As expected, animals on the 72:28 diet did not consume adequate energy to maintain high production which concurrently resulted in lower body condition scores.
CC Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Enzymes - Physiological Studies *10808
Metabolism - Energy and Respiratory Metabolism *13003
Nutrition - Lipids *13222
Nutrition - Proteins, Peptides and Amino Acids *13224
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Miscellaneous Descriptors
MILK PRODUCTION **GLYCEROL**-P DEHYDROGENASE PROTEIN FATTY ACID CATTLE INDUSTRY **DAIRY** INDUSTRY
RN 9035-82-9 (DEHYDROGENASE)

L69 ANSWER 6 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1989:336 BIOSIS
DN BA87:336
TI A COMPARISON OF THE FATTY ACID COMPOSITION IN BLOOD AND **MILK** FAT DURING RECOVERY OF **MILK** FAT DEPRESSION BY HIGH-ROUGHAGE FEEDING OR BY ADDITION OF SODIUM BICARBONATE.
AU VAN BEUKELEN P; WENSING T; BREUKINK H J
CS CLIN. LARGE ANIM. MED., VET. FAC. SCI. UNIV. UTRECHT, YALELAAN 16, 3584 CM URECHT, NETH.
SO J ANIM PHYSIOL ANIM NUTR, (1988) 60 (4), 188-196.
CODEN: JAPNEF.
FS BA; OLD
LA English
AB Feeding a high-concentrate diet in which expanded maize corn was included resulted in **milk** fat depression in four high producing **dairy** cows. Recovery was partially achieved by increasing the fibrous content of the diet or by sodium bicarbonate addition to the high-concentrate diet. Only minor variations in blood **glycerol**- and non esterified fatty acids-concentrations were observed. High-concentrate feeding resulted in an increase of C 18:2 and a decrease of C 16:0, C 18:0 and C 18:1 in percentages of the total amount of fatty acids in the blood lipids. Sodium bicarbonate induced recovery was accompanied by a further increase in C 18:2, whereas a decrease was found

during recovery affected by a high-roughage diet. In **milk** fat a decrease of C 18:0 was established concurrently to the occurrence of **milk** depression, sometimes accompanied by increases in C 18:1. High-roughage feeding and sodium bicarbonate-treatment resulted in abolition of these changes in **milk** fat. The contrast in changes of the fatty acid composition in blood and **milk** fat during sodium bicarbonate-treatment suggests that sodium bicarbonate does not only effect changes in the **rumen**, but also in fatty acid metabolism in the udder.

CC Biochemical Studies - General 10060
Biochemical Studies - Lipids 10066
Metabolism - General Metabolism; Metabolic Pathways *13002
Metabolism - Lipids *13006
Nutrition - General Studies, Nutritional Status and Methods *13202
Nutrition - General Dietary Studies *13214
Nutrition - Pathogenic Diets *13216
Nutrition - Prophylactic and Therapeutic Diets *13218
Nutrition - Lipids *13222
Digestive System - Physiology and Biochemistry *14004
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504

BC **Bovidae 85715**

IT Miscellaneous Descriptors
COW **RUMEN** EFFECT FIBER CONTENT HIGH-CONCENTRATE DIET UDDER METABOLISM

RN 144-55-8 (SODIUM BICARBONATE)

L69 ANSWER 7 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS

AN 1988:151579 BIOSIS

DN BA85:75232

TI LACTATION RESPONSE TO SHORT-TERM **ABOMASAL** INFUSION OF CHOLINE **INOSITOL** AND SOY LECITHIN.

AU GRUMMER R R; ARMENTANO L E; MARCUS M S

CS DEP. DAIRY SCI., UNIV. WIS., MADISON, WIS. 53706.

SO J DAIRY SCI, (1987) 70 (12), 2518-2524.
CODEN: JDSCAE. ISSN: 0022-0302.

FS BA; OLD

LA English

AB Five lactating Holstein cows averaging 13 wk postpartum were used in a Latin square design to examine the effect of daily **abomasal** infusion of choline (22 g), myo-**inositol** (37 g), soy oil (325 ml), or crude soy lecithin (900 ml) on lactation performance. Dry matter intake was reduced by infusion of soy lecithin as compared with infusion of water (1.81 and 21.1 kg/d, respectively). Plasma .beta.-hydroxybutyrate concentration was increased when cows received the myo-**inositol** or soy lecithin infusion, and plasma glucose was lower when cows received the choline or soy lecithin treatment. Infusion of soy lecithin caused approximately a twofold increase in plasma triglyceride rich lipoprotein concentration. **Milk** fat percentage and **milk** fat yield were greater during soy lecithin infusion (3.54% 1.11 kg/d) than during water (3.09% .98 kg/d) or soy oil (3.06%, .98 kg/d) infusion. This results in greater 3.5% FCM yield during soy lecithin infusion (31.6 kg/d) than during water (29.5 kg/d) or soy oil (29.6 kg/d) infusion. Infusion of phospholipid with triglyceride allowed more fatty acid to be infused without causing diarrhea. Infusion of triglyceride in the presence of phospholipid increased **milk** fat synthesis whereas infusion of triglyceride alone did not.

CC Biochemical Studies - General 10060
Biochemical Studies - Lipids 10066
Biochemical Studies - Carbohydrates 10068
Nutrition - General Studies, Nutritional Status and Methods *13202
Nutrition - General Dietary Studies *13214
Nutrition - Lipids *13222
Food Technology - Dairy Products *13518
Food Technology - Evaluations of Physical and Chemical Properties *13530
Digestive System - General; Methods *14001

hemolytic bacteria, coliform, lactobacilli and clostridia in faeces. Salivary LF increased from the average 0 day level of 3.6-17.0 .mu.g/ml in the different groups to a maximum of 38.7-55.6 .mu.g/ml within one week, and declining thereafter slowly in all groups. LF was not found in the saliva of all calves at birth, but was consistently present later on. No LF was detected in plasma. Salivary LP increased from the average 0 day level of 56.3-86.6 .mu.g/ml in the different groups to a maximum of 228-296 .mu.g/ml within three weeks and declined markedly by day 35. LP was found in all saliva samples, but the plasma concentrations were very low and not always detectable. Salivary LZM was high at birth compared to the plasma level (avarage 0.8-2.1 .mu.g/ml vs. 0.3-0.5 .mu.g/ml in the different groups) dropped within one week in all groups, reaching the plasma level by day 21. No clear changes were observed in the LZM plasma concentration. Except for IgG2, there was a rapid but transient increase in the plasma levels of all Ig's, in particular of IgG1, after the first colostrum feeding. From day 7 the levels of Ig's with the exception of IgG2, started to rise again. There were no statistically significant differences in any of the investigated antimicrobial factors or bacterial groups between the feeding groups, except for clostridia which exhibited the highest count ($P < 0.05$) in the **xylitol** group. Also the average salivary LF, LZM and IgG, levels were highest, and the health status was best in the **xylitol** group. The results suggest that besides antibodies, LF, LZM and LP, which are present in maternal colostrum and also in saliva of the newborn calf, may contribute considerably to the protection of the calf against pathogens during the first weeks of life.

CC Biochemical Studies - Carbohydrates 10068
Nutrition - General Dietary Studies *13214
Nutrition - Carbohydrates *13220
Digestive System - General; Methods 14001
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
Physiology and Biochemistry of Bacteria *31000
Immunology and Immunochemistry - General; Methods 34502
Veterinary Science - Microbiology *38006

BC Bacteria - Unspecified 04000
Bovidae 85715

IT Miscellaneous Descriptors
AEROBIC BACTERIA HEMOLYTIC BACTERIA COLIFORM BACTERIA LACTOBACILLI CLOSTRIDIA COLOSTRUM LACTOFERRIN LACTOPEROXIDASE LYSOZYME IMMUNOGLOBULIN DISEASE RESISTANCE

RN 50-99-7 (GLUCOSE)
87-99-0 (XYLITOL)
9001-63-2 (LYSOZYME)
9003-99-0 (LACTOPEROXIDASE)

L69 ANSWER 10 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1986:109424 BIOSIS
DN BA81:19840
TI **XYLITOL POLYOL** MOLASSES AND GLUCOSE IN THE DIET OF NEWBORN CALVES I. EFFECT ON GROWTH AND SOME BLOOD VALUES.
AU TUORI M
CS DEPARTMENT ANIMAL HUSBANDRY, UNIVERSITY HELSINKI, SF-00710 HELSINKI, FINLAND.
SO J AGRIC SCI FINL, (1984 (RECD 1985)) 56 (4), 299-308.
CODEN: JASFE6.
FS BA; OLD
LA English
AB In a feeding trial with 18 calves, three carbohydrate additions were compared in a liquid **milk** replacer diet: glucose, **xylitol** and polyol molasses (PM). The aberage consumption of substrates was 41, 42 and 48 g dry matter of glucose, **xylitol** or polyol molasses per day. After one week of colostrum and whole **milk** feeding, liquid **milk** replacer was given 12% of live

weight. The trial lasted to the age of 5 weeks. Daily live weight gain was 452, 479 ad 425 g in the glucose, **xylitol** and PM groups (n.s.), respectively. Intake of concentrates was greater in female than male calves ($P < 0.05$). There was no significant difference in the feed conversion rate between the groups: 1.83, 1.88 and 1.98 kg dry matter/kg live weight gain in the glucose, **xylitol** and PM groups, respectively. Venous blood samples were taken before the first feeding after birth, then 1, 2, and 4 days, and 1, 3 and 5 weeks after birth. Haemoglobin and haematocrit were higher in the glucose than in the **xylitol** and PM groups, and higher in female than male calves ($P < 0.05$). There were no differences between the groups in plasma glucose, calcium or magnesium contents. Plasma urea-N was lower in the **xylitol** than in the glucose group ($P < 0.05$). Plasma inorganic phosphorus was higher in the **xylitol** than in the glucose group on week one and three after birth, the difference being significant at 3 weeks of age ($P < 0.05$).

CC Biochemical Studies - Carbohydrates 10068
Nutrition - General Dietary Studies *13214
Nutrition - Carbohydrates *13220
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504

BC **Bovidae 85715**

IT Miscellaneous Descriptors
COLOSTRUM WHOLE **MILK** PLASMA GLUCOSE CALCIUM MAGNESIUM UREA NITROGEN INORGANIC PHOSPHORUS FEED CONVERSION RATE

RN 50-99-7 (GLUCOSE)
57-13-6 (UREA NITROGEN)
87-99-0 (XYLITOL)
7439-95-4 (MAGNESIUM)
7440-70-2 (CALCIUM)

L69 ANSWER 11 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1985:376009 BIOSIS
DN BA80:46001
TI ADDITION OF **SORBITOL** TO A **MILK** SUBSTITUTE FOR VEAL **CALVES** 2. EFFECTS ON PLASMA LIVER AND MUSCLE LIPIDS.
AU BAUCHART D; AUROUSSEAU B; AUCLAIR E; LABARRE A
CS LABORATOIRE D'ETUDE DU METABOLISME ENERGETIQUE, I.N.R.A., 63122 CEYRAT, FRANCE.
SO REPROD NUTR DEV, (1985) 25 (2), 411-426.
CODEN: RNDED4. ISSN: 0181-1916.
FS BA; OLD
LA English
AB Two homologous groups of **preruminant** male **calves** (10 control and 9 **sorbitol**) of the **Friesian** .times. **Holstein** crossbreed were used to study the effects of **sorbitol** on lipid metabolism. Between 1 and 8 wk of age they received 2 diets (IC [initial control), IS [initial **sorbitol**)) with high levels of protein and fat (23% of DM (dry matter)) and then between 8 and 19 wk 2 diets (FC (finishing control) FS [finishing **sorbitol**)) containing lower levels of protein and fat (21% of DM). Diets IC and FC contained no **sorbitol**, while in the IS and FS diets it accounted for 0.8% of DM. Blood samples were taken at 2, 3, 4, 7, 12 and 19 wk of age and at the following times: 2 h before (T-2), and then 1/2 (T1/2), 2 (T2), 3 (T3), 5 (T5) and 7 (T7) h after ingestion of the morning meal. At slaughter (19 wk), samples of liver and of rectus abdominis muscle were taken from the carcasses. The addition of **sorbitol** to the replacer **milks** had no effect on plasma levels of nonesterified fatty acids or triglycerides. However at wk 2, 7 and 12, the levels of free and esterified cholesterol decreased significantly by a mean of 60 and 15%, respectively. **Sorbitol** intake significantly reduced muscle levels of triglycerides (6.8 mg/g of fresh tissue vs. 18.6 mg/g), free cholesterol (0.41 mg/g vs. 0.66) and total lipids (13.6 mg/g vs. 26.1). Lipid composition of liver was not

modified by **sorbitol** ingestion. An histological study confirmed that the diets caused no serious lesions. Generally, the results were more dispersed in the control group than in the **sorbitol** group.

CC Microscopy Techniques - Histology and Histochemistry 01056
Mathematical Biology and Statistical Methods 04500
Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biochemical Studies - Sterols and Steroids 10067
Biochemical Studies - Carbohydrates 10068
Metabolism - Carbohydrates *13004
Metabolism - Lipids *13006
Metabolism - Sterols and Steroids *13008
Metabolism - Proteins, Peptides and Amino Acids *13012
Food Technology - Synthetic, Supplemental and Enrichment Foods *13534
Digestive System - General; Methods 14001
Digestive System - Physiology and Biochemistry *14004
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Muscle - General; Methods 17501
Muscle - Physiology and Biochemistry *17504
Animal Production - Feeds and Feeding *26504

BC **Bovidae 85715**

IT Miscellaneous Descriptors
PROTEIN FAT LIPID METABOLISM TRIGLYCERIDES NON-ESTERIFIED FATTY-ACIDS CHOLESTEROL RECTUS ABDOMINIS MUSCLE HISTOLOGY

RN **50-70-4 (SORBITOL)**
57-88-5 (CHOLESTEROL)

L69 ANSWER 12 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1985:376008 BIOSIS
DN BA80:46000
TI ADDITION OF **SORBITOL** TO A **MILK** SUBSTITUTE FOR VEAL **CALVES** 1. EFFECTS ON HEALTH GROWTH AND FEED CONVERSION.
AU BAUCHART D; AUROUSSEAU B; AUCLAIR E
CS LABORATOIRE D'ETUDE DU METABOLISME ENERGETIQUE, I.N.R.A, THEIX, 63122 CEYRAT, FR.
SO REPROD NUTR DEV, (1985) 25 (2), 399-410.
CODEN: RNDED4. ISSN: 0181-1916.
FS BA; OLD
LA English
AB Two homologous groups of **preruminant** male **calves** (10 control and 9 **sorbitol**) of the **Friesian** .times. **Holstein** crossbreed were used to study the effects of **sorbitol** on appetite, health status and growth rate. Between 1 and 8 wk of age they were given 2 **milk** replacers (IC (initial control) and IS (initial **sorbitol**)) that contained high levels of protein and fat (23% of DM (dry matter)), and then between 8 and 19 wk 2 diets (FC (finishing control) and FS (finishing **sorbitol**)) containing lower levels of protein and fat (21% of DM). The IC and FC diets had no **sorbitol**, while in the IS and FS diets it accounted for 0.8% of DM. In each group 4 to 6 **calves** were used to measure **milk** digestibility at 3, 7 and 12 wk of age. At slaughter (19 wk), carcass quality and liver status were checked. The overall health status of the animals was satisfactory, but after accidental cold stress at wk 7, the 10 **calves** of the control group had diarrhea for 2 to 5 days vs. 4 **calves** in the **sorbitol** group. **Sorbitol** digestibility was about 95% at wk 3 and almost 100% at wk 7 and 12. Apparently energy and protein digestibilities increased in the 2 lots from 83.8 and 83.1, respectively, at wk 3, to 89.8 and 90.7%, respectively, at wk 7, but these digestibilities were not affected by **sorbitol**. Liveweight gain (+12% for the whole trial) and feed efficiency (+6.7% for the whole trial) were significantly ($P < 0.05$) improved by the presence of **sorbitol** in the diet.

CC Mathematical Biology and Statistical Methods 04500
Behavioral Biology - Animal Behavior *07003

Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biochemical Studies - Carbohydrates 10068
Physiology, General and Miscellaneous - General 12002
Metabolism - Energy and Respiratory Metabolism 13003
Metabolism - Carbohydrates *13004
Metabolism - Lipids *13006
Metabolism - Proteins, Peptides and Amino Acids *13012
Food Technology - Meats and Meat By - Products *13516
Food Technology - Dairy Products *13518
Food Technology - Synthetic, Supplemental and Enrichment Foods *13534
Digestive System - Physiology and Biochemistry *14004
Developmental Biology - Embryology - Morphogenesis, General *25508
Animal Production - Feeds and Feeding *26504

BC **Bovidae 85715**

IT Miscellaneous Descriptors
PROTEIN FAT ENERGY WEIGHT GAIN FEED EFFICIENCY APPETITE **MILK** REPLACERS **MILK** DIGESTIBILITY **SORBITOL** DIGESTIBILITY CARCASS QUALITY LIVER STATUS

RN **50-70-4 (SORBITOL)**

L69 ANSWER 13 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS

AN 1985:49739 BIOSIS

DN BR28:49739

TI INFLUENCE OF THE ADDITION OF **SORBITOL** OF MATERNAL **MILK** ON LIPID METABOLISM IN THE **PRERUMINANT** CALF.

AU BAUCHART D; AUROUSSEAU B

CS LABORATOIRE D'ETUDE METABOLISME ENERGETIQUE, INRA, THEIX, 63122 CEYRAT.

SO JOINT SPECIALIZED MEETING OF THE ASSOCIATION DES PHYSIOLOGISTES ET ASSOCIATION FRANCAISE DE NUTRITION (ASSOCIATION OF PHYSIOLOGISTS AND FRENCH ASSOCIATION OF NUTRITION) ON ENERGY AND INTERMEDIATE METABOLISM, LYON, FRANCE, FEB. 13-14, 1984. DIABETE METABOL. (1984) 10 (2), 150. CODEN: DIMEDU. ISSN: 0338-1684.

DT Conference

FS BR; OLD

LA French

CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Lipids 10066
Biochemical Studies - Sterols and Steroids 10067
Biochemical Studies - Carbohydrates 10068
Metabolism - Lipids *13006
Metabolism - Sterols and Steroids *13008
Nutrition - General Dietary Studies *13214
Nutrition - Carbohydrates *13220
Digestive System - Physiology and Biochemistry 14004
Reproductive System - Physiology and Biochemistry *16504
Muscle - Physiology and Biochemistry 17504
Pediatrics 25000
Animal Production - Feeds and Feeding *26504

BC **Bovidae 85715**

IT Miscellaneous Descriptors
ABSTRACT LIVER MUSCLE CHOLESTEROL

RN **50-70-4 (SORBITOL)**
57-88-5 (CHOLESTEROL)

L69 ANSWER 14 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS

AN 1982:183914 BIOSIS

DN BA73:43898

TI A **POLYOL** MIXTURE IN THE DIET OF **DAIRY** COWS.

AU MAKINEN K K; HAMALAINEN M; TUORI M; POUTIAINEN E

CS DEP. BIOCHEM., INST. DENTISTRY, UNIV. TURKU, TURKU.

SO NUTR REP INT, (1981) 23 (6), 1077-1088. CODEN: NURIBL. ISSN: 0029-6635.

FS BA; OLD

LA English
AB The effect of polyol feeding was studied with 24 lactating cows divided into 3 groups of 8 for 11-wk. One group was fed a barley-oat feed concentrate; the 2nd, the same feed supplemented with dried molasses-treated beet pulp; and the 3rd, the last mentioned feed but with molasses replaced by a mixture of polyols (chiefly comprising **xylitol**, **arabinitol**, **mannitol**, **sorbitol**, **rhamnitol** and **galactitol**), 483 g of the mixture/head per day. Serum, **milk**, whole saliva and lacrimal fluid samples were analyzed before the onset of the dietary phase, and biweekly during the feeding of the diets. The serum parameters studied (protein, transaminases, .alpha.-amylase, alkaline phosphatase, cholesterol, glucose, icterus index, total sialic acids, amino acids, inorganic P (Pi), Na, K, Ca, Mg and Fe) did not differ significantly between the groups. The same was true for whole saliva lactoperoxidase (LPO), protein and .alpha.-amylase, lacrimal fluid LPO, protein and amino-peptidase, and the **milk** parameters LPO, protein, glucose, Pi, Na, K, Ca, Mg and Fe. The polyol mixture is apparently safe, making it a useful additive in the feeding of **dairy** cows.
CC Biochemical Studies - General 10060
Enzymes - Methods 10804
Enzymes - Physiological Studies 10808
Metabolism - General Metabolism; Metabolic Pathways 13002
Metabolism - Minerals 13010
Nutrition - General Studies, Nutritional Status and Methods *13202
Nutrition - Lipids *13222
Food Technology - Dairy Products 13518
Food Technology - Evaluations of Physical and Chemical Properties 13530
Digestive System - Physiology and Biochemistry *14004
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids 15010
Animal Production - Feeds and Feeding *26504
Agronomy - Forage Crops and Fodder 52506
BC Gramineae 25305
Chenopodiaceae 25795
Bovidae 85715
IT Miscellaneous Descriptors
BARLEY OAT CONCENTRATE BEET PULP DRIED MOLASSES SERUM **MILK** SALIVA LACRIMAL FLUID **XYLITOL ARABINITOL MANNITOL SORBITOL RHAMNITOL GALACTITOL** PROTEIN TRANS AMINASE ALPHA AMYLASE ALKALINE PHOSPHATASE CHOLESTEROL GLUCOSE SIALIC-ACID AMINO PEPTIDASE INORGANIC PHOSPHORUS SODIUM POTASSIUM CALCIUM MAGNESIUM IRON LACTO PEROXIDASE
RN **50-70-4 (SORBITOL)**
50-99-7 (GLUCOSE)
57-88-5 (CHOLESTEROL)
87-99-0 (XYLITOL)
608-66-2 (GALACTITOL)
2152-56-9 (ARABINITOL)
7439-89-6 (IRON)
7439-95-4 (MAGNESIUM)
7440-09-7 (POTASSIUM)
7440-23-5 (SODIUM)
7440-70-2 (CALCIUM)
9000-90-2 (ALPHA AMYLASE)
9001-78-9 (ALKALINE PHOSPHATASE)
9003-99-0 (LACTO PEROXIDASE)
9031-66-7 (TRANS AMINASE)
9031-94-1 (AMINO PEPTIDASE)
69-65-8Q, 87-78-5Q (MANNITOL)
488-28-8Q, 1114-16-5Q (RHAMNITOL)

L69 ANSWER 15 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1974:106285 BIOSIS
DN BA57:5985

TI EFFECTS OF PROPYLENE GLYCOL OR **GLYCEROL SUPPLEMENTATION** OF THE DIET OF **DAIRY** COWS ON FEED INTAKE **MILK** YIELD AND COMPOSITION AND INCIDENCE OF KETOSIS.
AU FISHER L J; ERFLE J D; LODGE G A; SAUER F D
SO CAN J ANIM SCI, (1973) 53 (2), 289-296.
CODEN: CNJNAT. ISSN: 0008-3984.
FS BA; OLD
LA Unavailable
CC Biochemical Studies - General 10060
Biochemical Studies - Lipids 10066
Biochemical Studies - Carbohydrates 10068
Physiology, General and Miscellaneous - General *12002
Pathology, General and Miscellaneous - General *12502
Pathology, General and Miscellaneous - Therapy 12512
Metabolism - General Metabolism; Metabolic Pathways *13002
Metabolism - Energy and Respiratory Metabolism *13003
Metabolism - Metabolic Disorders *13020
Nutrition - General Studies, Nutritional Status and Methods *13202
Food Technology - Dairy Products *13518
Food Technology - Evaluations of Physical and Chemical Properties *13530
Food Technology - Synthetic, Supplemental and Enrichment Foods 13534
Reproductive System - Physiology and Biochemistry 16504
Animal Production - Feeds and Feeding *26504
Veterinary Science - Pathology *38004
BC **Bovidae 85715**
IT Miscellaneous Descriptors
MILK FAT LACTOSE ENERGY BALANCE BODY WEIGHT
RN **56-81-5 (GLYCEROL)**
57-55-6 (PROPYLENE GLYCOL)
63-42-3Q, 16984-38-6Q (LACTOSE)

L69 ANSWER 16 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1972:170297 BIOSIS
DN BA54:291
TI PRELIMINARY EVALUATION OF THE ADDITION OF **GLUCOGENIC** MATERIALS TO THE RATIONS OF LACTATING COWS.
AU FISHER L J; ERFLE J D; SAUER F D
SO CAN J ANIM SCI, (1971) 51 (3), 721-727.
CODEN: CNJNAT. ISSN: 0008-3984.
FS BA; OLD
LA Unavailable
CC Biochemical Studies - General 10060
Metabolism - Carbohydrates 13004
Metabolism - Lipids *13006
Nutrition - General Dietary Studies *13214
Food Technology - Dairy Products 13518
Food Technology - Synthetic, Supplemental and Enrichment Foods *13534
Digestive System - Physiology and Biochemistry *14004
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Reproductive System - General; Methods 16501
Animal Production - Feeds and Feeding *26504
Veterinary Science - General; Methods *38002
BC **Bovidae 85715**
IT Miscellaneous Descriptors
RUMEN VOLATILE FATTY-ACIDS BLOOD GLUCOSE GLUTAMATE SUCCINATE PROPYLENE GLYCOL **GLYCEROL**
RN 50-99-7 (GLUCOSE)
56-14-4 (SUCCINATE)
56-81-5 (GLYCEROL)
57-55-6 (PROPYLENE GLYCOL)
56-86-0Q, 6899-05-4Q (GLUTAMATE)

=> d all tot l72

L72 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1998:533303 BIOSIS
DN PREV199800533303
TI Effect of corn processing on **milk** production and dry matter intake of **cows** in early lactation.
AU **Luhman, C. M. (1)**; Lacount, D. W.
CS (1) Land O'Lakes and Coop. Res. Farm, Webster City, IA USA
SO Journal of Dairy Science, (1998) Vol. 81, No. SUPPL. 1, pp. 336. Meeting Info.: Joint Meeting of the American Dairy Science Association and the American Society of Animal Science Denver, Colorado, USA July 28-31, 1998 Amercian Society of Animal Science . ISSN: 0022-0302.
DT Conference
LA English
CC Animal Production - General; Methods *26502
Biochemical Studies - General *10060
Nutrition - General Dietary Studies *13214
Food Technology - General; Methods *13502
Reproductive System - General; Methods *16501
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
BC Bovidae 85715
IT Major Concepts
Animal Husbandry (Agriculture); Foods; Reproductive System (Reproduction)
IT Parts, Structures, & Systems of Organisms
milk: production, reproductive system
IT Miscellaneous Descriptors
corn: cracked, flaked, grain product, ground; dry matter intake; lactation; Meeting Abstract
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cow (Bovidae): breed-Holstein
ORGN Organism Superterms
Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates

L72 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1998:533170 BIOSIS
DN PREV199800533170
TI The effects of high oleic acid corn grain or soybeans on **milk** composition in mid-lactation Holsteins.
AU **Luhman, C. M. (1)**; Feng, P.
CS (1) Land O'Lakes Res. Farm, Webster City, IA USA
SO Journal of Dairy Science, (1998) Vol. 81, No. SUPPL. 1, pp. 303. Meeting Info.: Joint Meeting of the American Dairy Science Association and the American Society of Animal Science Denver, Colorado, USA July 28-31, 1998 Amercian Society of Animal Science . ISSN: 0022-0302.
DT Conference
LA English
CC Animal Production - General; Methods *26502
Biochemical Studies - General *10060
Metabolism - General Metabolism; Metabolic Pathways *13002
Nutrition - General Dietary Studies *13214
Reproductive System - General; Methods *16501
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
BC Bovidae 85715
IT Major Concepts
Animal Husbandry (Agriculture); Reproductive System (Reproduction)
IT Parts, Structures, & Systems of Organisms
milk: composition, reproductive system
IT Chemicals & Biochemicals

oleic acid: high
IT Miscellaneous Descriptors
corn grain: grain product; mid-lactation; soybeans: vegetable; Meeting Abstract
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cow (Bovidae): breed-Holstein
ORGN Organism Superterms
Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates
RN 112-80-1 (OLEIC ACID)

L72 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1998:63466 BIOSIS
DN PREV199800063466
TI Feeding of rolled, raw sunflower or canola seeds to alter **milk** fatty acid composition toward producing a more unsaturated butter fat.
AU **Luhman, C. M.**; Degregorio, R. M.; Propst, D. D.; Ziegler, B. E.
CS Land O'Lakes Res. Farm, Webster City, IA USA
SO Journal of Animal Science, (1997) Vol. 75, No. SUPPL. 1, pp. 96.
Meeting Info.: 89th Annual Meeting of the American Society of Animal Science, Midwestern Section
ISSN: 0021-8812.
DT Conference
LA English
CC Animal Production - Feeds and Feeding *26504
Biochemical Studies - Lipids *10066
Nutrition - Lipids *13222
Food Technology - Dairy Products *13518
Food Technology - Evaluations of Physical and Chemical Properties *13530
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
BC Bovidae 85715
IT Major Concepts
Animal Husbandry (Agriculture); Foods; Nutrition
IT Industry
livestock industry
IT Miscellaneous Descriptors
butter fat saturation level; butter: **dairy** product; canola seed: animal feed; **milk** fatty acid composition; **milk** : **dairy** product; raw rolled sunflower seed: animal feed; Meeting Abstract
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cattle (Bovidae): breed-Holstein, lactating **cows**
ORGN Organism Superterms
Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates

L72 ANSWER 4 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1998:63465 BIOSIS
DN PREV199800063465
TI The effect of feeding a commercial yeast culture product to primiparous **dairy cows**.
AU **Luhman, C. M. (1)**; Propst, D. D. (1); Degregorio, R. M. (1); Ziegler, B. E. (1); Garrett, D. J. E.
CS (1) Land O'Lakes Res. Farm, Webster City, IA USA
SO Journal of Animal Science, (1997) Vol. 75, No. SUPPL. 1, pp. 95.
Meeting Info.: 89th Annual Meeting of the American Society of Animal Science, Midwestern Section
ISSN: 0021-8812.
DT Conference
LA English
CC Animal Production - Feeds and Feeding *26504

Nutrition - General Dietary Studies *13214
Reproductive System - Physiology and Biochemistry *16504
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
BC Bovidae 85715
IT Major Concepts
Animal Husbandry (Agriculture); Nutrition
IT Industry
feed industry; livestock industry
IT Miscellaneous Descriptors
body condition; body weight; dry matter intake; **milk** composition; **milk** production; Diamond V XP yeast culture: animal feed; Meeting Abstract
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cattle (Bovidae): breed-Holstein, primiparous **dairy cows**
ORGN Organism Superterms
Animals; Artiodactyls; Chordates; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Vertebrates

L72 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1996:550197 BIOSIS
DN PREV199699272553
TI Effects of high oleic acid corn on **milk** fatty acid composition in midlactation **cows**.
AU **Luhman, C. M.**; Propst, D. D.
CS Land O'Lakes Research Farm, Webster City, IA USA
SO Journal of Animal Science, (1996) Vol. 74, No. SUPPL. 1, pp. 81.
Meeting Info.: 88th Annual Meeting of the American Society of Animal Science, Midwestern Section and the American Dairy Science Association, Midwestern Branch Des Moines, Iowa, USA March 18-20, 1996
ISSN: 0021-8812.
DT Conference
LA English
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Lipids *10066
Physiology, General and Miscellaneous - General *12002
Nutrition - General Studies, Nutritional Status and Methods *13202
Nutrition - General Dietary Studies *13214
Nutrition - Lipids *13222
Food Technology - Dairy Products *13518
Reproductive System - Physiology and Biochemistry *16504
Animal Production - General; Methods *26502
Animal Production - Feeds and Feeding *26504
Veterinary Science - General; Methods *38002
BC Bovidae *85715
IT Major Concepts
Animal Husbandry (Agriculture); Biochemistry and Molecular Biophysics; Foods; Nutrition; Physiology; Reproductive System (Reproduction); Veterinary Medicine (Medical Sciences)
IT Chemicals & Biochemicals
OLEIC ACID
IT Industry
dairy industry
IT Miscellaneous Descriptors
ANIMAL HUSBANDRY; CATTLE FEEDING; HIGH OLEIC ACID CORN EFFECTS; MEETING ABSTRACT; MIDLACTATION **COW MILK** FATTY ACID COMPOSITION; **MILK** CRUDE PROTEIN; NUTRITION; RATIONS
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia; Mammalia - Unspecified: Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cow (Bovidae); mammal (Mammalia - Unspecified)

ORGN Organism Superterms
animals; artiodactyls; chordates; mammals; nonhuman mammals; nonhuman vertebrates; vertebrates
RN 112-80-1 (OLEIC ACID)

L72 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1995:337234 BIOSIS
DN PREV199598351534
TI Improvements in **milk** sampling techniques using total quality management (TQM) tools.
AU **Luhman, C. M.**
CS Land O'Lakes Res. Farm, Webster City, IA USA
SO Journal of Dairy Science, (1995) Vol. 78, No. SUPPL. 1, pp. 286.
Meeting Info.: Ninetieth Annual Meeting of the American Dairy Science Association Ithaca, New York, USA June 25-28, 1995
ISSN: 0022-0302.
DT Conference
LA English
CC Biochemical Studies - General 10060
Food Technology - Dairy Products *13518
Food Technology - Evaluations of Physical and Chemical Properties *13530
Animal Production - General; Methods *26502
BC Bovidae *85715
IT Major Concepts
Animal Husbandry (Agriculture); Foods
IT Industry
dairy industry
IT Miscellaneous Descriptors
DAIRY PRODUCT; MEETING ABSTRACT
ORGN Super Taxa
Bovidae: Artiodactyla, Mammalia, Vertebrata, Chordata, Animalia; Mammalia - Unspecified: Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
cattle (Bovidae); mammal (Mammalia - Unspecified)
ORGN Organism Superterms
animals; artiodactyls; chordates; mammals; nonhuman mammals; nonhuman vertebrates; vertebrates

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FILE 'BIOSIS' ENTERED AT 08:29:16 ON 26 MAY 2000

FILE 'AGRICOLA' ENTERED AT 08:29:44 ON 26 MAY 2000
L73 7039 S L45
L74 88 S L73 AND "L500"/CC
L75 564 S L73 AND (DAIRY OR MILK OR LACT?)
L76 28 S L74 AND L75

FILE COVERS 1967 - 26 May 2000 VOL 132 ISS 22
FILE LAST UPDATED: 24 May 2000 (20000524/ED)

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L36 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1998:291623 HCAPLUS
DN 129:80951
TI The effects of added **glycerol** or unprotected free fatty acids or a combination of the two on **silage** intake, **milk** production, **rumen** fermentation and diet digestibility in **cows** given grass **silage** based diets
AU Khalili, Hannele; Varvikko, Tuomo; Toivonen, Vesa; Hissa, Kari; Suvitie, Marjatta
CS Agricultural Research Centre of Finland, North-Savo Research Station, Maaninka, FIN-71750, Finland
SO Agric. Food Sci. Finl. (1997), 6(5-6), 349-362
CODEN: AFSFFB; ISSN: 1239-0992
PB Agricultural Research Centre of Finland
DT Journal
LA English
CC **17-12** (Food and Feed Chemistry)
AB The addn. of **glycerol** or free fatty acids either alone or in combination to conc. was studied for the effects on **feed** intake, **milk** prodn., **rumen** fermn., blood metabolites and diet digestibility in dairy **cows** given grass **silage** ad libitum. The study was conducted on 12 mid-lactating **cows**, 4 of them **ruminally** cannulated. Barley-based conc. (control diet, C) was given 7 kg/day as fed. In the other 3 diets, 36 g/kg of barley was replaced by **glycerol** (G) or a mixt. of free fatty acids (FA) or by a combination of the 2, making a total of 72 g/kg (GFA). The exptl. design consisted of balanced 4 .times. 4 Latin squares with a 2 .times. 2 factorial arrangement of diets: the effects of G, FA and G*FA interaction. The FA diets significantly decreased **silage** intake, increased **milk** yield, decreased **milk** protein content, increased the concns. of C18:0, C18:1, and C20:1 and decreased those of C8-16, and C18:3 fatty acids in **milk** fat. The FA diets also increased the concn. of nonesterified fatty acids in plasma, and decreased the digestibility of org. matter and neutral detergent fiber but increased that of fat. **Glycerol** decreased the molar proportion of acetate and increased the molar proportions of propionate and butyrate in the **rumen**, but the addn. of **glycerol** did not have any effect on **silage** intake, **milk** yield or **milk** compn. **Milk** yield was highest when **glycerol** and free fatty acids were given together, showing a pos. interaction.
ST **silage** intake **glycerol** fatty acid; **milk** prodn **glycerol** fatty acid; **rumen** fermn **glycerol** fatty acid; diet digestibility **glycerol** fatty acid
IT Detergents
Diet
Digestibility

Feeding experiment
Fermentation
Lactation
Milk
Plasma (blood)
Stomach (**ruminant**)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Fatty acids, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Proteins (general), biological studies
RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Fats and Glyceridic oils, biological studies
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT **Milk** fat
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT **Silage**
(grass; effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT Grass (Poaceae)
(**silage**; effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

IT **56-81-5**, **Glycerol**, biological studies 64-19-7, Acetic acid, biological studies 79-09-4, Propionic acid, biological studies 107-92-6, Butyric acid, biological studies
RL: BAC (Biological activity or effector, except adverse); BIOL (Biological study)
(effects of added **glycerol** or unprotected free fatty acids or a combination of two on **silage** intake, **milk** prodn., **rumen** fermn. and diet digestibility in **cows** given grass **silage** based diets)

L36 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1993:58598 HCAPLUS
DN 118:58598
TI Effects of **abomasal** protein and energy supply on wool growth in **Merino sheep**
AU Reis, P. J.; Tunks, D. A.; Munro, S. G.
CS Div. Anim. Prod., CSIRO, Blacktown, 2148, Australia
SO Aust. J. Agric. Res. (1992), 43(6), 1353-66
CODEN: AJAEA9; ISSN: 0004-9409
DT Journal

LA English
CC **18-3** (Animal Nutrition)
Section cross-reference(s): 13
AB The relative importance for wool growth of energy-yielding **nutrients** compared with amino acids required for incorporation into wool proteins was assessed in an expt. in which most **nutrients** were supplied via the **abomasum**. Nine **nutritional** treatments, providing 3 levels of protein (53, 99, and 145 g/day) to the intestines at 3 levels of energy (5.2, 7.5, and 9.7 MJ/day), were given to 12 **Merino sheep** during 3 consecutive periods of 3 wk in a balanced lattice design. **Abomasal nutrients** consisted of varying proportions of casein, whole **milk**, glucose, and **glycerol**. There was a large effect of protein supply on all components of wool growth, but there was no significant effect of energy. There was a significant interaction between the effects of protein and energy supply on diam., length, growth rate, and vol. of wool, but it was small relative to the main effect of protein. Extra energy appeared to enhance wool growth at the highest level of protein but reduce it at the lowest level of protein. The concn. of urea, cystine, methionine, and other essential amino acids in plasma increased with protein level. Increasing energy supply reduced the concn. of urea and essential amino acids in plasma but not that of cystine or methionine. The expt. confirmed the major role of amino acid supply in controlling wool growth but indicated that there may be a small interaction with energy supply.
ST **abomasum** protein energy **sheep** wool growth; amino acid **nutrition sheep** wool
IT **Sheep**
(**abomasal** supply of proteins and energy to, amino acid **nutrition** and wool growth response to)
IT Animal **nutrition**
(amino acids in, of **sheep**, wool growth response to **abomasal** supply of energy and proteins in relation to)
IT Amino acids, biological studies
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BIOL (Biological study); PROC (Process)
(in **nutrition**, of **sheep**, wool growth response to **abomasal** supply of energy and proteins in relation to)
IT Wool
(protein and energy supply through **abomasum** effect on)
IT Proteins, biological studies
(wool growth in **sheep** response to **abomasal** supply of energy and)
IT **Feed** energy
(wool growth in **sheep** response to **abomasal** supply of proteins and)
IT **Stomach, ruminant**
(**abomasum**, protein and energy supply through, in **sheep**, wool growth in relation to)
IT Amino acids, biological studies
(essential, of blood plasma, of **sheep**, **abomasal** supply of energy and proteins effect on)
IT 56-89-3, Cystine, biological studies 63-68-3, Methionine, biological studies
(of blood plasma, of **sheep**, **abomasal** supply of energy and proteins effect on)

L36 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1992:425303 HCAPLUS
DN 117:25303
TI Infusion of long-chain fatty acids varying in saturation and chain length into the **abomasum** of lactating dairy **cows**
AU Drackley, J. K.; Klusmeyer, T. H.; Trusk, A. M.; Clark, J. H.
CS Dep. Anim. Sci., Univ. Illinois, Urbana, IL, 61801, USA
SO J. Dairy Sci. (1992), 75(6), 1517-26
CODEN: JDSCAE; ISSN: 0022-0302

DT Journal
LA English
CC **18-5** (Animal Nutrition)
AB Free long-chain fatty acids were infused into the **abomasum** of lactating dairy **cows** to det. postruminal effects on **feed** intake, prodn. and compn. of **milk**, **nutrient** digestibilities, and metabolites in blood. Four **Holstein** **cows** fitted with **ruminal** cannulas were used in a 4 .times. 4 Latin square design with 14-day periods. Treatments were **abomasal** infusions of (1) control, 168 g/day of meat solubles (carrier for fatty acids), (2) control plus 450 g/day of mostly satd. fatty acids (C16:C18 = 0.75), (3) control plus 450 g/day of a mixt. of satd. and unsatd. fatty acids (C16:C18 = 0.40), and (4) control plus 450 g/day of mostly unsatd. fatty acids (C16:C18 = 0.11). Prodn. of **milk** and **milk** components, dry matter intake, and intake of digestible energy decreased linearly as unsatn. and chain length of infused fatty acids increased. Percentages of fat, CP, and SNF in **milk** and total tract apparent digestibilities of DM, OM, ADF, NDF, energy, and fatty acids were not affected significantly by treatments. Infusing fatty acids decreased proportions and yields of short- and medium-chain fatty acids and increased proportions and yields of unsatd. C18 fatty acids in **milk** fat. Increasing unsatn. and chain length of infused fatty acids linearly decreased proportion and yield of palmitic acid but increased proportions and yields of polyunsatd. C18 fatty acids in **milk** fat. Infusing fatty acids increased concns. of nonessential fatty acids and cholesterol in blood plasma. The profile of fatty acids reaching the intestine may be an important determinant of responses to supplemental fats fed to lactating dairy **cows**.
ST **cow milk** compn **abomasum** fatty acid
IT **Cattle**
(long-chain fatty acid **abomasal** infusion effect on dairy **cows**)
IT **Feed** energy
(**milk** prodn. and compn. in **cows** in relation to level of, **abomasal** fatty acids in relation to)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(of **milk** of **cows**, **abomasal** long-chain fatty acid infusion effect on)
IT Proteins, biological studies
RL: BIOL (Biological study)
(of **milk** of **cows**, **abomasal** long-chain fatty acids infusion effect on)
IT **Milk**
(prodn. and compn. of, **abomasal** long-chain fatty acid infusion effect on)
IT **Stomach**, **ruminant**
(**abomasum**, long-chain fatty acid infusion into, of **cows**, **milk** prodn. and compn. response to)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(long-chain, **abomasal** infusion of, in **cows**, **milk** prodn. and compn. response to)
IT 7727-37-9, Nitrogen, biological studies
RL: BIOL (Biological study)
(nonprotein, of **milk** of **cows**, **abomasal** long-chain fatty acid infusion effect on)
IT **56-81-5**, **Glycerol**, biological studies 57-10-3, Palmitic acid, biological studies 57-11-4, Stearic acid, biological studies 57-88-5, Cholesterol, biological studies 60-33-3, Linoleic acid, biological studies 107-92-6, Butyric acid, biological studies 112-80-1, Oleic acid, biological studies 124-07-2, Caprylic acid, biological studies 142-62-1, Caproic acid, biological studies 143-07-7, Lauric acid, biological studies 334-48-5, Capric acid 373-49-9, Palmitoleic acid 463-40-1, Linolenic acid 506-12-7, Margaric acid 544-63-8, Myristic acid, biological studies 1002-84-2,

Pentadecanoic acid 26444-03-1, Tetradecenoic acid
RL: BIOL (Biological study)
(of **milk** of **cows**, **abomasal** long-chain fatty acid infusion effect on)

L36 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1991:678696 HCAPLUS
DN 115:278696
TI Effect of **glycerol** supplementation to the diet of dairy **cows** on **milk** production and some metabolic parameters
AU Remond, B.; Rouel, J.; Ollier, A.
CS Lab. Rech. Lactation Elevage Ruminants, INRA, Saint-Genes-Champanelle, 63122, Fr.
SO Ann. Zootech. (1991), 40(2), 59-66
CODEN: AZOOAH; ISSN: 0003-424X
DT Journal
LA French
CC **18-4** (Animal Nutrition)
AB In 3 trials (57 **Holstein** lactating **cows** in total), 2 of which were carried out at the beginning of lactation, 190-610 g **glycerol** was added to the ration daily in substitution for the same quantity of conc. Animals were fed according to stds., with diets based on grass **silage** and hay + **fodder** beets. **Glycerol** supply had no effect on **milk** yield and compn. and on food intake (measured in 1 trial). It increased the proportion of propionic and butyric acids in the volatile fatty acid mixt. of the **rumen** fluid to the detriment of acetic acid. In blood plasma, it increased 3-hydroxybutyrate concn. and decreased glycemia (1 trial). Addn. of **glycerol** to the diet does not appear to be effective in avoiding ketosis in dairy **cows** when used at these doses.
ST **glycerol feed cow milk** metab; **rumen** metab **cow feed glycerol**
IT **Cattle**
(**feeding** expt. on **cows**, with **glycerol**, productivity and metab. in relation to)
IT **Stomach** content, **ruminant**
(fermn. by, of **cow**, dietary **glycerol** effect on)
IT Blood plasma
(metabolic indexes of, of **cows**, dietary **glycerol** effect on)
IT **Milk**
(prodn. of, **feeding** expt. with **glycerol** on)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(volatile, of **rumen** content of **cows**, dietary **glycerol** effect on)
IT **Feeding** experiment
(with **glycerol**, on **cows**, metab. and **milk** prodn. in relation to)
IT **56-81-5**, **Glycerol**, biological studies
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(**feeding** expt. with, on **cows**, metab. and **milk** prodn. in relation to)
IT 300-85-6, 3-Hydroxybutyric acid
RL: BIOL (Biological study)
(of blood plasma of **cows**, dietary **glycerol** effect on)
IT 64-19-7, Acetic acid, biological studies 79-09-4, Propionic acid, biological studies 107-92-6, Butyric acid, biological studies
RL: BIOL (Biological study)
(of **rumen** content of **cows**, dietary **glycerol** effect on)

L36 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1989:113574 HCAPLUS
DN 110:113574

TI A comparison of the fatty acid composition of blood and **milk** fat during recovery from **milk** fat depression by high-**roughage feeding** or by addition of sodium bicarbonate

AU Van Beukelen, P.; Wensing, T.; Breukink, H. J.
CS Clin. Large Anim. Med., State Univ., Utrecht, Neth.

SO J. Anim. Physiol. Anim. Nutr. (1988), 60(4), 188-96
CODEN: JAPNEF
DT Journal
LA English
CC **18-7** (Animal Nutrition)

AB **Feeding** a high-conc. diet with extruded corn to high producing **cows** resulted in **milk** fat depression. Recovery was partially achieved by increasing the fibrous content of the diet or by sodium bicarbonate addn. to the high-conc. diet. Only minor variations in blood **glycerol** and nonesterified fatty acid concns. were obsd. High-conc. **feeding** resulted in an increase in C18:2 and a decrease in C16:0, C18:0, and C18:1 in percentages of the total amt. of fatty acids in the blood lipids. Sodium bicarbonate-induced recovery was accompanied by a further increase in C18:2, whereas a decrease was found during recovery affected by a high-**roughage** diet. In **milk** fat, a decrease of C18:0 was established concurrently with the occurrence of **milk** fat depression, sometimes accompanied by increases in C18:1. High-**roughage feeding** and sodium bicarbonate treatment resulted in abolition of these changes in **milk** fat. The contrast in changes of the fatty acid compn. in blood and **milk** fat during sodium bicarbonate treatment suggests that sodium bicarbonate does not only effect changes in the **rumen**, but also in fatty acid metab. in the udder.

ST sodium bicarbonate **cow milk** fat; fatty acid blood **milk cow roughage**

IT Dietary fiber
(fatty acids of blood lipids and **milk** fat of **cows** during recovery from **milk** fat depression response to dietary)

IT **Cattle**
(fatty acids of blood lipids of **cows**, during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT Lipids, biological studies
RL: BIOL (Biological study)
(fatty acids of, of blood of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT Fatty acids, biological studies
RL: BIOL (Biological study)
(of lipids of blood and **milk** fat, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate effect on)

IT **Milk**
(prodn. of, sodium bicarbonate and **roughage feeds** effect on)

IT **Feeding** experiment
(with sodium bicarbonate and **roughage feeds**, on **cows**, fatty acids of **milk** fat and blood lipids in relation to)

IT Fats, biological studies
RL: BIOL (Biological study)
(**milk**, fatty acids of, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 144-55-8P, Sodium bicarbonate, biological studies
RL: BIOL (Biological study); PREP (Preparation)
(fatty acids of blood lipids and **milk** fat of **cows** during recovery from **milk** fat depression response to dietary)

IT 57-10-3P, Hexadecanoic acid, biological studies 57-11-4P, C18:0, biological studies 112-80-1P, 9-Octadecenoic acid (Z)-, biological studies

RL: BIOL (Biological study); PREP (Preparation)
(of lipids of blood and **milk** fat, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 60-33-3P, 9,12-Octadecadienoic acid (Z,Z)-, biological studies
RL: BIOL (Biological study); PREP (Preparation)
(of lipids, of blood of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 463-40-1P
RL: PREP (Preparation)
(of lipids, of blood of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

IT 143-07-7P, Dodecanoic acid, biological studies 544-63-8P, Tetradecanoic acid, biological studies
RL: BIOL (Biological study); PREP (Preparation)
(of **milk** fat, of **cows** during recovery from **milk** fat depression, high-**roughage feeding** and sodium bicarbonate addn. effect on)

L36 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1989:22732 HCAPLUS
DN 110:22732
TI Effect of dietary energy source and concentration on performance of dairy **cows** during early lactation
AU Eastridge, M. L.; Cunningham, M. D.; Patterson, J. A.
CS Dep. Anim. Sci., Purdue Univ., West Lafayette, IN, 47907, USA
SO J. Dairy Sci. (1988), 71(11), 2959-66
CODEN: JDSCAE; ISSN: 0022-0302
DT Journal
LA English
CC **18-4** (Animal Nutrition)
AB **Holstein** heifers were placed into groups according to projected calving date, prepartum body wt., and prepartum condition score. Following parturition, animals within each group were assigned randomly to 1 of 3 diets and remined on the expt. for 45 days. Diets consisted of **forage**:conc. ratios of 72:28, 53:47, or 73:27 (isocaloric to the 53:47 ratio by the addn. of 8% soybean oil). Diets were fed twice daily as total mixed rations. Blood, **rumen** fluid, and adipose tissue were sampled at 7, 5, 20, and 45 days of lactation. Performance means were, resp.: dry matter intake (kg/day) 13.9, 14.9, and 12.4; **milk** (kg/day) 24.5, 25.8, and 18.6; **milk** fat (%) 3.77, 3.59, and 3.62; **milk** protein (%) 3.03, 2.99, and 3.11; body condition score (0 = thin, 5 = fat) 1.53, 1.87, and 1.99; and body wt. (kg) 514, 523, and 505. **Cows** fed soybean oil had higher **ruminal** isoacids than those fed the other diets and higher acetate than **cows** on the 53:47 diet. Diets had no effect on blood metabolites or activity of adipose **glycerol**-phosphate dehydrogenase (EC 1.1.1.8). The soybean oil diet reduced short-chain fatty acids and increased long-chain fatty acids in **milk**. **Feed** intake and **milk** prodn. were highest for **cows** receiving the 53:47 diet. As expected, animals on the 72:28 diet did not consume adequate energy to maintain high prodn. which concurrently resulted in lower body condition scores.
ST **feed** energy source **cow milk**
IT **Milk**
(compn. and prodn. of, dietary energy sources effect on)
IT Soybean oil
RL: PROC (Process)
(fatty acids in **rumen** after **feeding** of, to **cattle**)
IT **Cattle**
(**feeding** expt. on lactating **cows**, with dietary energy source)
IT **Feed** energy

(**feeding** expt. with source of, on lactating **cows**)
IT **Stomach** content, **ruminant**
(fermn. by, of **cows**, dietary energy source effect on)
IT Proteins, biological studies
RL: BIOL (Biological study)
(of **milk**, of **cows**, dietary energy source effect on)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(volatile, of **rumen** of **cows**, dietary energy source effect on)
IT **Feeding** experiment
(with dietary energy source, on lactating **cows**)
IT **Feed**
(conc., **cows** performance response to dietary level of)
IT **Feed**
(**forage**, **cows** performance response to dietary level of)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(long-chain, of **milk**, dietary energy source effect on)
IT Fats, biological studies
RL: BIOL (Biological study)
(**milk**, dietary energy source effect on)
IT Fatty acids, biological studies
RL: BIOL (Biological study)
(short-chain, of **milk**, dietary energy source effect on)
IT 64-19-7, Acetic acid, biological studies 79-31-2, Isobutyric acid 503-74-2
RL: BIOL (Biological study)
(of **rumen** fluid, of **cows**, dietary energy source effect on)

L36 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1988:111116 HCAPLUS
DN 108:111116
TI Lactation response to short-term **abomasal** infusion of choline, **inositol**, and soy lecithin
AU Grummer, R. R.; Armentano, L. E.; Marcus, M. S.
CS Dep. Dairy Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO J. Dairy Sci. (1987), 70(12), 2518-24
CODEN: JDSCAE; ISSN: 0022-0302
DT Journal
LA English
CC **18-5** (Animal Nutrition)
AB Five lactating **Holstein cows** averaging 13 wk postpartum were used in a Latin square design to examine the effect of daily **abomasal** infusion of choline (22 g), myo-**inositol** (37 g), soy oil (325 mL), or crude soy lecithin (900 mL) on lactation performance. Dry matter intake was reduced by infusion of soy lecithin as compared with infusion of water (18.1 and 21.1 kg/day, resp.). Plasma .beta.-hydroxybutyrate concn. was increased when **cows** received the myo-**inositol** or soy lecithin infusion, and plasma glucose was lower when **cows** received the choline or soy lecithin treatment. Infusion of soy lecithin caused a .apprx.2-fold increase in plasma triglyceride-rich lipoprotein concn. **Milk** fat percentage and **milk** fat yield were greater during soy lecithin infusion (3.54%, 1.11 kg/day) than during water (3.09%, 0.98 kg/day) or soy oil (3.06%, 0.98 kg/day) infusion. This resulted in greater 3.5% FCM yield during soy lecithin infusion (31.6 kg/day) than during water (29.5 kg/day) or soy oil (29.6 kg/day) infusion. Infusion of phospholipid with triglyceride allowed more fatty acid to be infused without causing diarrhea. Infusion of triglyceride in the presence of phospholipid increased **milk** fat synthesis, whereas infusion of triglyceride alone did not.
ST choline **abomasum cow milk** fat;
inositol abomasum cow milk fat;

lecithin **abomasum cow milk** fat; **milk** fat **cow** choline **inositol** lecithin

IT Lipoproteins
(choline and **inositol** and lecithin **abomasal** infusions effect on, of blood plasma of **cows**)

IT Blood sugar
(choline and **inositol** and lecithin **abomasal** infusions effect on, of **cows**)

IT **Cattle**
(lactation by, **abomasal** choline and **inositol** and lecithin infusions effect on)

IT Glycerides, biological studies
Phospholipids, biological studies
Soybean oil
(lactation in **cows** response to **abomasal** infusion of)

IT **Milk**
(prodn. of, **abomasal** infusion of choline and **inositol** and lecithin effect on)

IT **Feeding** experiment
(with choline and **inositol** and lecithin by **abomasal** infusion, on lactation by **cows**)

IT **Stomach** content, **ruminant**
(**abomasal**, choline and **inositol** and lecithin of, lactation by **cows** response to)

IT Fats, biological studies
(**milk**, formation of, **abomasal** infusion of choline and **inositol** and lecithin effect on)

IT Lecithins
(soya, lactation in **cows** response to **abomasal** infusion of)

IT 62-49-7, Choline **87-89-8**, Myoinositol
(lactation in **cows** response to **abomasal** infusion of)

IT 300-85-6
(of blood plasma, of **cows**, **abomasal** choline and myoinositol and lecithin infusions effect on)

L36 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1978:5045 HCAPLUS
DN 88:5045
TI **Fodder** additive for **ruminants**
IN Merensalmi, Matti Johannes
PA Farmos Yhtyma Oy, Finland
SO Ger. Offen., 13 pp.
CODEN: GWXXBX
DT Patent
LA German
IC A23K001-16
CC **17-5** (Foods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2710930	A1	19770922	DE 1977-2710930	19770312
	DE 2710930	C2	19900927		
	FI 7600746	A	19770920	FI 1976-746	19760319
	FI 53394	B	19780131		
	FI 53394	C	19830607		
	SE 7702937	A	19770920	SE 1977-2937	19770315
	SE 426434	B	19830124		
	SE 426434	C	19830511		
	FR 2344233	A1	19771014	FR 1977-7602	19770315
	FR 2344233	B3	19800215		
	GB 1542802	A	19790328	GB 1977-10841	19770315
	CS 191333	P	19790629	CS 1977-1723	19770315
	CA 1101263	A1	19810519	CA 1977-274084	19770316

US 4127676	A	19781128	US 1977-778359	19770317
DK 7701212	A	19770920	DK 1977-1212	19770318
DK 146192	B	19830725		
DK 146192	C	19831227		
NO 7700966	A	19770920	NO 1977-966	19770318
NO 144444	B	19810525		
NO 144444	C	19810902		
NL 7702981	A	19770921	NL 1977-2981	19770318
DD 129613	Z	19780201	DD 1977-197928	19770318
SU 626678	D	19780930	SU 1977-2463649	19770318

PRAI FI 1976-746 19760319

AB A **feed** additive for **ruminants** is prepd. from C5 and (or) C6 **sugar alcs.**, molasses, and propylene glycol [57-55-6]. The additive increases blood glucose levels and **milk** prodn. in **cows**. Thus, a mixt. of **xylitol** [**87-99-0**] 18, **arabitol** [**2152-56-9**] 24, **mannitol** [**69-65-8**] 18, **sorbitol** [**50-70-4**] 9, **galactitol** [**608-66-2**] 7, **rhamnitol** [**488-28-8**] 7, reducing **sugars** 7, and other polyols 10% by wt. was approx. half digested in 24 h when incubated with **rumen** fluid. When fed to **cows**, the **sugar alc**. mixt. increased blood glucose levels from 3 to approx. 3.5 mM. The **sugar alcs**. also decreased **milk** fat content from a mean of 4.5 to 4%, and reduced the variability in fat content. A **cow** fed a mixt. of propylene glycol 10, Na propionate 5, **sugar alcs**. 40, and molasses 45% by wt. at 0.4 L daily had an increase in **milk** prodn. of 0.1 kg daily.

ST **sugar alc feed ruminant; milk feed sugar alc**; propylene glycol **feed milk**

IT Blood **sugar**
(of **cows**, **sugar alcs**. of **feed** increase of)

IT **Milk**
(prodn. of, **sugar alcs**. increase of)

IT **50-70-4**, biological studies 57-55-6, biological studies **69-65-8 87-99-0 488-28-8 608-66-2 2152-56-9**
(of **feed** additives for **cows**, blood glucose and **milk** prodn. increase by)

L36 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2000 ACS
AN 1972:84725 HCAPLUS
DN 76:84725
TI Preliminary evaluation of the addition of glucogenic materials to the rations of lactating **cows**
AU Fisher, L. J.; Erfle, J. D.; Sauer, F. D.
CS Res. Branch, Canada Dep. Agric., Ottawa, Ont., Can.
SO Can. J. Anim. Sci. (1971), 51(3), 721-7
CODEN: CNJNAT
DT Journal
LA English
CC **18** (Animal Nutrition)

AB Glutamate, succinate, propylene glycol, or **glycerol** were added to a basal conc. at 3.3% of air-dry **feed**. Each conc. was fed both ad libitum and in restricted amts. to 4 **cows** in early lactation. Dietary intake, **milk** yield and compn., molar proportions of **rumen** volatile fatty acids, and blood glucose, ketones, and plasma free fatty acids were used as criteria of effect of these supplements. Propylene glycol in the diet resulted in a lower intake of conc. compared with **glycerol** (11.44 vs. 14.30 kg/day) and significantly decreased **rumen** butyrate and plasma .beta.-hydroxybutyrate. Glutamate supplementation prevented the fall in **milk** fat content which occurred when the other 3 supplemented concs. were fed ad libitum, and this effect may have been related to the

Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
Plant Physiology, Biochemistry and Biophysics - Chemical Constituents 51522
BC **Bovidae 85715**
IT Miscellaneous Descriptors
COW **DAIRY** INDUSTRY **MILK** COMPOSITION
RN 62-49-7 (CHOLINE)
87-89-8Q, 6917-35-7Q (INOSITOL)

L69 ANSWER 8 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1986:445985 BIOSIS
DN BR31:102395
TI EFFECTS OF FEEDING **SORBITOL** ON **MILK** YIELD AND BLOOD CHARACTERISTICS IN **DAIRY** COWS IN EARLY LACTATION.
AU REMOND B; JACQUIER C
CS LABORATOIRE DE LA LACTATION, I.N.R.A., THEIX 63122 CEYRAT, FRANCE.
SO FIRST CONFERENCE ON NUTRITION AND FEEDING OF HERBIVORES, PARIS, FRANCE, MAR. 21-22, 1985. REPROD NUTR DEV. (1986) 26 (1 PART B), 365-366.
CODEN: RNDED4. ISSN: 0181-1916.
FS BR; OLD
LA French
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Sterols and Steroids 10067
Biochemical Studies - Carbohydrates 10068
Metabolism - Carbohydrates *13004
Metabolism - Sterols and Steroids *13008
Nutrition - Carbohydrates *13220
Food Technology - Dairy Products *13518
Food Technology - Evaluations of Physical and Chemical Properties 13530
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Miscellaneous Descriptors
CHOLESTEROLEMIA GLYCEMIA
RN **50-70-4 (SORBITOL)**

L69 ANSWER 9 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1986:109425 BIOSIS
DN BA81:19841
TI **XYLITOL** POLYOL MOLASSES AND GLUCOSE IN THE DIET OF NEWBORN CALVES II. CONTENT OF ANTIMICROBIAL FACTORS IN BLOOD AND SALIVA BACTERIA IN FECES AND HEALTH STATUS.
AU KORHONEN H; ALASAARI E; ANTILA M; TUORI M; POUTIAINEN E
CS MINIST. LIVESTOCK DEV., P.O. BOX 68228, HILL PLAZA, NAIROBI, KENYA.
SO J AGRIC SCI FINL, (1984 (RECD 1985)) 56 (4), 309-324.
CODEN: JASFE6.
FS BA; OLD
LA English
AB The concentrations of various antimicrobial factors in the saliva and plasma of newborn calves with special reference to possible effects of a diet supplemented with different **sugar alcohols** were studied. Eighteen calves were assigned alternately at birth to three groups, each comprising six animala. All calves were fed a pooled colostrum diet for the first four days, thereafter whole **milk** plus **milk** replacer. Concentrates and hay were given ad libitum. The diets of the different groups were supplemented with the following test substrates; **xylitol**, polyol molasses or glucose (control). The daily doses of each substrate were progressively increased from 0.5 to 1.0 g/kg of live weight for the last four weeks. Plasma and saliva samples were taken from all calves before colostrum feeding (day 0) and on days 1, 2, 4, 7, 21 and 35 after birth. The following factors were determined quantitatively; lactoferrin (LF), lactoperoxidase (LP), lysozyme (LZM) and immunoglobulins IgG1, IgG2, IgM and IgA (only in plasma). Further determinations included weekly counts of total aerobic bacteria, aerobic

Biochemical Studies - General 10060
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Lipids 10066
Biochemical Studies - Carbohydrates 10068
Physiology, General and Miscellaneous - General 12002
Metabolism - Energy and Respiratory Metabolism 13003
Metabolism - Carbohydrates *13004
Metabolism - Lipids *13006
Metabolism - Proteins, Peptides and Amino Acids *13012
Food Technology - Meats and Meat By - Products *13516
Food Technology - Dairy Products *13518
Food Technology - Synthetic, Supplemental and Enrichment Foods *13534
Digestive System - Physiology and Biochemistry *14004
Developmental Biology - Embryology - Morphogenesis, General *25508
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Miscellaneous Descriptors
PROTEIN FAT ENERGY WEIGHT GAIN FEED EFFICIENCY APPETITE **MILK** REPLACERS **MILK** DIGESTIBILITY **SORBITOL** DIGESTIBILITY CARCASS QUALITY LIVER STATUS
RN **50-70-4 (SORBITOL)**

L69 ANSWER 13 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1985:49739 BIOSIS
DN BR28:49739
TI INFLUENCE OF THE ADDITION OF **SORBITOL** OF MATERNAL **MILK** ON LIPID METABOLISM IN THE **PRERUMINANT** CALF.
AU BAUCHART D; AUROUSSEAU B
CS LABORATOIRE D'ETUDE METABOLISME ENERGETIQUE, INRA, THEIX, 63122 CEYRAT.
SO JOINT SPECIALIZED MEETING OF THE ASSOCIATION DES PHYSIOLOGISTES ET ASSOCIATION FRANCAISE DE NUTRITION (ASSOCIATION OF PHYSIOLOGISTS AND FRENCH ASSOCIATION OF NUTRITION) ON ENERGY AND INTERMEDIATE METABOLISM, LYON, FRANCE, FEB. 13-14, 1984. DIABETE METABOL. (1984) 10 (2), 150.
CODEN: DIMEDU. ISSN: 0338-1684.
DT Conference
FS BR; OLD
LA French
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Lipids 10066
Biochemical Studies - Sterols and Steroids 10067
Biochemical Studies - Carbohydrates 10068
Metabolism - Lipids *13006
Metabolism - Sterols and Steroids *13008
Nutrition - General Dietary Studies *13214
Nutrition - Carbohydrates *13220
Digestive System - Physiology and Biochemistry 14004
Reproductive System - Physiology and Biochemistry *16504
Muscle - Physiology and Biochemistry 17504
Pediatrics 25000
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Miscellaneous Descriptors
ABSTRACT LIVER MUSCLE CHOLESTEROL
RN **50-70-4 (SORBITOL)**
57-88-5 (CHOLESTEROL)

L69 ANSWER 14 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1982:183914 BIOSIS
DN BA73:43898
TI A **POLYOL** MIXTURE IN THE DIET OF **DAIRY** COWS.
AU MAKINEN K K; HAMALAINEN M; TUORI M; POUTIAINEN E
CS DEP. BIOCHEM., INST. DENTISTRY, UNIV. TURKU, TURKU.
SO NUTR REP INT, (1981) 23 (6), 1077-1088.
CODEN: NURIBL. ISSN: 0029-6635.
FS BA; OLD

LA English
AB The effect of polyol feeding was studied with 24 lactating cows divided into 3 groups of 8 for 11-wk. One group was fed a barley-oat feed concentrate; the 2nd, the same feed supplemented with dried molasses-treated beet pulp; and the 3rd, the last mentioned feed but with molasses replaced by a mixture of polyols (chiefly comprising **xylitol**, **arabinitol**, **mannitol**, **sorbitol**, **rhamnitol** and **galactitol**), 483 g of the mixture/head per day. Serum, **milk**, whole saliva and lacrimal fluid samples were analyzed before the onset of the dietary phase, and biweekly during the feeding of the diets. The serum parameters studied (protein, transaminases, .alpha.-amylase, alkaline phosphatase, cholesterol, glucose, icterus index, total sialic acids, amino acids, inorganic P (Pi), Na, K, Ca, Mg and Fe) did not differ significantly between the groups. The same was true for whole saliva lactoperoxidase (LPO), protein and .alpha.-amylase, lacrimal fluid LPO, protein and amino-peptidase, and the **milk** parameters LPO, protein, glucose, Pi, Na, K, Ca, Mg and Fe. The polyol mixture is apparently safe, making it a useful additive in the feeding of **dairy** cows.
CC Biochemical Studies - General 10060
Enzymes - Methods 10804
Enzymes - Physiological Studies 10808
Metabolism - General Metabolism; Metabolic Pathways 13002
Metabolism - Minerals 13010
Nutrition - General Studies, Nutritional Status and Methods *13202
Nutrition - Lipids *13222
Food Technology - Dairy Products 13518
Food Technology - Evaluations of Physical and Chemical Properties 13530
Digestive System - Physiology and Biochemistry *14004
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids 15010
Animal Production - Feeds and Feeding *26504
Agronomy - Forage Crops and Fodder 52506
BC Gramineae 25305
Chenopodiaceae 25795
Bovidae 85715
IT Miscellaneous Descriptors
BARLEY OAT CONCENTRATE BEET PULP DRIED MOLASSES SERUM **MILK** SALIVA LACRIMAL FLUID **XYLITOL ARABINITOL** **MANNITOL SORBITOL RHAMNITOL** **GALACTITOL** PROTEIN TRANS AMINASE ALPHA AMYLASE ALKALINE PHOSPHATASE CHOLESTEROL GLUCOSE SIALIC-ACID AMINO PEPTIDASE INORGANIC PHOSPHORUS SODIUM POTASSIUM CALCIUM MAGNESIUM IRON LACTO PEROXIDASE
RN **50-70-4 (SORBITOL)**
50-99-7 (GLUCOSE)
57-88-5 (CHOLESTEROL)
87-99-0 (XYLITOL)
608-66-2 (GALACTITOL)
2152-56-9 (ARABINITOL)
7439-89-6 (IRON)
7439-95-4 (MAGNESIUM)
7440-09-7 (POTASSIUM)
7440-23-5 (SODIUM)
7440-70-2 (CALCIUM)
9000-90-2 (ALPHA AMYLASE)
9001-78-9 (ALKALINE PHOSPHATASE)
9003-99-0 (LACTO PEROXIDASE)
9031-66-7 (TRANS AMINASE)
9031-94-1 (AMINO PEPTIDASE)
69-65-8Q, 87-78-5Q (MANNITOL)
488-28-8Q, 1114-16-5Q (RHAMNITOL)

L69 ANSWER 15 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1974:106285 BIOSIS
DN BA57:5985

carboxylic acid hardened fat etc..
DC C03 D13
PA (NIPS) NIPPON SODA CO
CYC 1
PI JP 60141242 A 19850726 (198601)* 4p
JP 04024977 B 19920428 (199221) 5p <--
ADT JP 60141242 A JP 1983-245768 19831229; JP 04024977 B JP 1983-245678 19831229
FDT JP 04024977 B Based on JP 60141242
PRAI JP 1983-245768 19831229; JP 1983-245678 19831229
AN 1986-002398 [01] WPIDS
AB JP 60141242 A UPAB: 19930922
Feed additive compsn. is obtd. by coating a physiologically active substance with a protective substance comprising at least one of 14-22C (branched), (satd.) mono-carboxylic acids, hardened vegetable fats and hardened animal fats and additionally coating the resulting granules with one or more, same or different protective substances.

USE/ADVANTAGE - As the compsns. are doube-coated with protective coatings, they are not deactivated in the 1st stomach, when administered to **ruminants**, and may be digested in the digestive organs after the 4th stomach. Thus the efficient absorption of the contained physiologically active substance from the digestive organs is high. Physiologically active substances are aminoacids (e.g. methionine, lysine), derivs. of aminoacids (e.g. N-acyl-amino acids), proteins (e.g. casein), vitamins, hydrocarbons (e.g. glucose), antibiotics, etc..

The physiologically active substance (100 wt. pts.) and protective substance (50-500 wt. pts.) are blended and melted to form coated granules, which are further coated with the same or different protective substance in an amt. 1-100 wt.% of the granules.
0/0

L49 ANSWER 38 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1985-311788 [50] WPIDS
DNC C1985-134578
TI Improving assimilation of **fodder** by **ruminant** - for fattening by addn. of **sorbitol** (BE 4.12.85).
DC C03 D13
IN CUVELIER, D; DUMONT, M; HUCHETT, M; ROUMET, F
PA (ROQF) ROQUETTE FRERES SA
CYC 7
PI DE 3520010 A 19851205 (198550)* 18p
GB 2159690 A 19851211 (198550)
BE 902585 A 19851204 (198551)
FR 2565071 A 19851206 (198604)
NL 8501511 A 19860102 (198605)
ES 8704328 A 19870616 (198729)
GB 2159690 B 19880427 (198817)
IT 1186726 B 19871216 (199043)
ADT GB 2159690 A GB 1985-14072 19850604; FR 2565071 A FR 1984-8729 19840604; NL 8501511 A NL 1985-1511 19850528; ES 8704328 A ES 1985-544468 19850604
PRAI FR 1984-8729 19840604
AN 1985-311788 [50] WPIDS
AB DE 3520010 A UPAB: 19930925
Assimilation of **fodder** rations by **ruminants** during fattening, opt. with a maintenance period, is optimised by feeding **sorbitol** to the **ruminants** with the normal ration.

Pref. agents for optimising the assimilation of **fodder** during fattening of **ruminants** consists mainly of **sorbitol**. The amt. of **sorbitol** given is 10-200 (80) g/day. The **fodder** contains 0.1-2 (0.3-1.2) wt.% of **sorbitol** and has less than 15 (9-13) wt.% of total nitrogenous matter.

ADVANTAGE - The ratio of **fodder** given:meat produced is improved, and the daily wt. increase of the animal is raised without increased, or even with reduced, **fodder** consumption.
0/0

ABEQ GB 2159690 B UPAB: 19930925
A method enabling the optimisation of the assimilation of the feed ration by **ruminants** during the period during which they are fattened and which period may comprise a maintenance period, particularly the winter season, wherein the **ruminant** is made to ingest, at the same time as the normal foodstuff ration, an amount of **sorbitol** from 20 to 120g per day.

L49 ANSWER 39 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1985-298136 [48] WPIDS
DNN N1985-221959 DNC C1985-128925
TI Mixt. of germinated, fermented seeds - from cereals and leguminous plants, contg. **lactic** bacteria or **lactic** acid, for animal feeding.
DC C03 D13 D16 Q35
IN RICCI, J L; ROPRAZ, C
PA (SCHM-I) SCHMUTZ P A
CYC 9
PI EP 162805 A 19851127 (198548)* FR 41p
R: AT BE DE FR GB IT LU NL
CH 659764 A 19870227 (198710)
EP 162805 B 19870826 (198734) FR
R: AT BE DE FR GB IT LU NL
DE 3560502 G 19871001 (198740)
CH 663516 A 19871231 (198803)
ADT EP 162805 A EP 1985-810170 19850417
PRAI CH 1984-1975 19840419; CH 1984-3190 19840703; CH 1984-6056 19841220
AN 1985-298136 [48] WPIDS
AB EP 162805 A UPAB: 19930925
A mixt. of germinated seeds, contg. germinated, fermented cereal seeds, and germinated, fermented leguminous seeds, is preserved in the moist state by inoculating at least the germinated cereal seeds with **lactic** bacteria chosen for prodn. of **lactic** acid and preservative effect, and/or by an acid.
USE/ADVANTAGE - Is **animal** feeding, esp. **farm animals**, e.g. horses, **cows**, **calves** (claimed), **heifers**, pigs, **goats**, **sheep** and poultry, partic. prodn. of white veal. The process does not involve steeping or forced aeration. The mixt. contains high value nutrients, e.g. sugars, aminoacids, proteins, and pre-digested lipids. Poorly digestible complex glucosides are converted to assimilable sugars, proteins to aminoacids and oligopeptides, and lipids to free fatty acids, sugars, choline and **inositol**. Minerals, oligo-elements and vitamins are converted to assimilable forms. Content of heavy metals, esp. Cu, tannins, coumarine and other mycotoxins is reduced. Enzymes, **lactic** bacteria, and **lactic** acid are introduced.
0/0
ABEQ EP 162805 B UPAB: 19930925
A mixt. of germinated seeds, contg. germinated, fermented cereal seeds, and germinated, fermented leguminous seeds, is preserved in the moist state by inoculating at least the germinated cereal seeds with **lactic** bacteria chosen for prodn. of **lactic** acid and preservative effect, and/or by an acid.
USE/ADVANTAGE - Is **animal** feeding, esp. **farm animals**, e.g. horses, **cows**, **calves** (claimed), **heifers**, pigs, **goats**, **sheep** and poultry, partic. prodn. of white veal. The process does not involve steeping or forced aeration. The mixt. contains high value nutrients, e.g. sugars, aminoacids, proteins, and pre-digested lipids. Poorly digestible complex glucosides are converted to assimilable sugars, proteins to aminoacids and oligopeptides, and lipids to free fatty acids, sugars, choline and **inositol**. Minerals, oligo-elements and vitamins are converted to assimilable forms. Content of heavy metals, esp. Cu, tannins, coumarine and other mycotoxins is reduced. Enzymes, **lactic** bacteria, and **lactic** acid are introduced.

sorbitan mono-oleate; sorbitan monopalmitate and propylene glycol alginate.

USE/ADVANTAGE - The fed prod. can be used as a calcium supplement to **livestock** feed, eg. horse feed which has been manufactured in pellet form as pelleting limits vitamin and mineral content, esp. calcium to unacceptably low levels. The calcium feed prod. is essentially dust-free and has reduced antistatic properties and therefore the explosion hazard is reduced. Efficient mixing of the additive with the feed prod. is greatly simplified, while not detracting from its value as a feed. The blend is of uniform composition, can be vitamin and mineral enriched, is free-flowing and has desirable handling properties.
Dwg.0/0

L49 ANSWER 15 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1993-368289 [46] WPIDS
DNC C1993-163401
TI Improving animal meat quality, esp. water retention - by adding **glycerol** or deriv. to feed or drinking water, esp. for treatment of pigs.
DC D13 E17
IN AUMAITRE, L A; FRANCOIS, A; JAMET, J; MOUROT, J; PEYRONNET, C
PA (FRAN-I) FRANCOIS A; (INRG) INRA INST NAT RECH AGRONOMIQUE; (ONID-N) ONIDOL ORG NAT INTERPROFESSIONNELLE
CYC 20
PI WO 9321782 A1 19931111 (199346)* FR 43p <--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA HU PL US
FR 2690314 A1 19931029 (199350) 33p <--
EP 637917 A1 19950215 (199511) FR <--
R: BE DE DK ES FR IT NL
ADT WO 9321782 A1 WO 1993-FR402 19930423; FR 2690314 A1 FR 1992-5115 19920424; EP 637917 A1 EP 1993-911821 19930423, WO 1993-FR402 19930423
FDT EP 637917 A1 Based on WO 9321782
PRAI FR 1992-5115 19920424
AN 1993-368289 [46] WPIDS
AB WO 9321782 A UPAB: 19940103
Treatment comprises incorporating **glycerol** (and/or its precursors and/or metabolites) in feedstuff and/or drinking water. Treatment is carried out at the end of the growth period, for 2-6 (pref. 3) weeks before slaughter. Pref. the total **glycerol** concn. is 1-10 (esp. ca. 5) wt.% of the feedstuff and/or drinking water.

USE/ADVANTAGE - Treatment of meat animals (esp. Suidae, turkeys, **milk cows**, **calves**, laying hens or geese), improves meat quality. Water retention capacity of the meat is increased, so that bonded water is not released by dripping or on cooking. Weight loss on cooking (e.g. of ham) is reduced.

In an example, tests were carried out on Large White porkers raised on feedstuffs based on corn and soya oil cake (17% protein, 0.86% lysine, 4% total lipids), in amts. increasing from 1.9 kg/day (at animal wt. 36-40 kg) to 2.8 kg/day (at 75-100 kg). Results showed that addn. of 5% **glycerol** to the feedstuff improved the meat quality (by reducing wt. loss by dripping and on cooking) without affecting growth or causing hyperlipaemia.
Dwg.0/3

L49 ANSWER 16 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1993-001679 [01] WPIDS
DNC C1993-000696
TI Pelleted compsns. for cattle - contg. components protected from attack in the rumen, and components that are not protected.
DC A96 A97 B07 C07 D13
IN LAFFAY, J; RUEL, J; SABATIER, A
PA (RHON) RHONE POULENC NUTRITION ANIMALE
CYC 20
PI EP 520890 A1 19921230 (199301)* FR 10p <--
AU 9218524 A 19930107 (199308) <--

FR 2678145 A1 19921231 (199309) 16p <--
CA 2072459 A 19921229 (199311) FR
ZA 9204749 A 19930331 (199320) 24p <--
NZ 243341 A 19930526 (199324) <--
JP 05184309 A 19930727 (199334) 7p <--
AU 654014 B 19941020 (199443) <--
EP 520890 B1 19961211 (199703) FR 9p <--
R: AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE
DE 69215770 E 19970123 (199709) <--
ES 2094315 T3 19970116 (199710) <--

ADT EP 520890 A1 EP 1992-401790 19920625; AU 9218524 A AU 1992-18524 19920625; FR 2678145 A1 FR 1991-8044 19910628; CA 2072459 A CA 1992-2072459 19920626; ZA 9204749 A ZA 1992-4749 19920626; NZ 243341 A NZ 1992-243341 19920626; JP 05184309 A JP 1992-191319 19920626; AU 654014 B AU 1992-18524 19920625; EP 520890 B1 EP 1992-401790 19920625; DE 69215770 E DE 1992-615770 19920625, EP 1992-401790 19920625; ES 2094315 T3 EP 1992-401790 19920625

FDT AU 654014 B Previous Publ. AU 9218524; DE 69215770 E Based on EP 520890; ES 2094315 T3 Based on EP 520890

PRAI FR 1991-8044 19910628

AN 1993-001679 [01] WPIDS

AB EP 520890 A UPAB: 19931118
Feed supplements and/or medicaments for **ruminants** are in the form of pelleted compositions contg. two types of active ingredients (a) those that are not protected from degradation in the rumen (I), and (b) those in granular form that are protected from degradation in the rumen (II) and which liberate their active ingredients in the **abomasum** or intenstines, are obtd. by mixing and shaping (I) with granules of (II) and a binder (III) which is soluble, crosslinkable or meltable, and opt. a release agent and/or a charge.

Protected ingredients (II) include vitamins, amino acids and medicaments, which may be protected by a pH sensitive copolymer, natural prod., or a prod. that undergoes enzymic degradation. Binders include vinyl pyridine-styrene copolymers with a hydrophobic material, zein, and chitosan. The granules of (II) are pref. 0.3-5mm in dia., esp. 0.5-3mm. The unprotected ingredient (I) may be minerals, trace elements, vitamins, glucose, fatty acids, yeasts, growth factors, enzymes, microbial flora, fungi, peptides, sodium carbonate, **sorbitol**, propylene glycol, betaine and sodium propionate.

Crosslinkable binders (III) include alginates, gelatins, cellulose derivs., polysaccharides and molasses. These may be crosslinked using aldehydes (for the proteins), salts and oxides of di- and tri-valent metals (for the alginates, xanthane gum and molasses). Suitable fusible binders (III) include fatty acids and alcohols, **glycerol** esters, polyethylene glycols, paraffins, natural or synthetic waxes, and hydrogenated animal or vegetable fats. Optional release agents include flours, ground cattle cake, brewing and fermentation residues, cereal and wood by-prods., and cellulosic fibres.

ADVANTAGE - Pelleting takes place under mild conditions, giving a uniform prod. that is miscible with conventional granular feeds in all proportions, loss of protection through mechanical destruction is reduced, and the unprotected ingredients (I) are rapidly liberated in the rumen while the protected ingredients (II) are not liberated until later.
Dwg.0/0

ABEQ ZA 9204749 A UPAB: 19931113
The pellets comprise: (i) an active ingredient which is uprotected against degradation in the rumen; (ii) a granular active ingredient which is protected against degradation in the rumen, but which is released in the **abomasum** and/or in the intestine; (iii) a soluble or meltable, and opt. crosslinkable binder, and opt. a disintegrating agent and/or a filler. The pellets are suitable for use as a feed and/or medicinal supplement for **ruminants**.

ABEQ EP 520890 B UPAB: 19970115
Compositions in the form of ''pellets'' containing active ingredients unprotected against degradation in the rumen; with the exception of one or more of the following compounds; water-soluble cellulose derivatives,

polysaccharides, **sugars**, molasses, vinasses, lignosulphonates, grain or algal meals, crystallisable inorganic compounds, gelatins, tanned proteins, polyvalent cation salts of polyacids, drying oils mastics, fatty acids or **alcohols**, hydrogenated animal and vegetable fats, **glycerol** esters, paraffins, natural or synthetic waxes, synthetic polymers, silica, silicates, talc, clays, calcium carbonates, phosphates, residues of the cereal and timer industries, ground oil-cakes, brewery and fermentation residues, cellulosic plant fibres; combined with granular active ingredients with a mean diameter of between 03 and 5 mm, protected against degradation in the rumen but degradable through the combined action of heat and pressure during pelletisation, used for feed and/or medicinal supplementation for **ruminants**, which release the said protected active ingredients in the rennet-stomach and/or in the intestine, characterized in that they are obtained by mixing and shaping the active ingredient or ingredients unprotected with respect to the rumen, the active ingredient protected in granular form and a binder chosen from binders and which can be solubilised, crosslinked or melted and, optionally, a disintegrating agent and/or a filler.
Dwg.0/0

L49 ANSWER 17 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1992-260699 [32] WPIDS
DNC C1992-116412
TI Agent for oral application to **ruminants** - contains an active ingredient, wax, powdered weighting agent and a **sugar**, **sugar alcohol**, water soluble cellulose ether or polyethylene glycol.
DC B07 C07 P32 P33 P34
IN DUWEL, D; HORNYKIEWYTSCH, T; DUEWEL, D; HORNYKIEWTSCH, T; HORNYKIEWYTSSCH, T
PA (FARH) HOECHST AG
CYC 28
PI EP 497240 A1 19920805 (199232)* DE 16p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE
NO 9200357 A 19920729 (199240)
CA 2060066 A 19920729 (199242)
FI 9200324 A 19920729 (199243)
BR 9200252 A 19921006 (199245)
ZA 9200573 A 19920930 (199245) 24p
CS 9200230 A2 19920812 (199305)
HU 62460 T 19930528 (199326)
US 5252561 A 19931012 (199342) 10p
NZ 241391 A 19940427 (199420)
RO 108297 B1 19940429 (199517)
AU 660442 B 19950629 (199533)
HU 213678 B 19970929 (199813)
EP 497240 B1 19980408 (199818) DE 18p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE
DE 59209269 G 19980514 (199825)
RU 2100021 C1 19971227 (199835) 10p
CZ 284152 B6 19980812 (199839)
ES 2117647 T3 19980816 (199839)
NO 304055 B1 19981019 (199848)
ADT EP 497240 A1 EP 1992-101259 19920127; NO 9200357 A NO 1992-357 19920127; CA 2060066 A CA 1992-2060066 19920127; FI 9200324 A FI 1992-324 19920124; BR 9200252 A BR 1992-252 19920127; ZA 9200573 A ZA 1992-573 19920128; CS 9200230 A2 CS 1992-230 19920127; HU 62460 T HU 1992-249 19920127; US 5252561 A US 1992-824933 19920124; NZ 241391 A NZ 1992-241391 19920124; RO 108297 B1 RO 1992-200008 19920123; AU 660442 B AU 1992-10457 19920124; HU 213678 B HU 1992-249 19920127; EP 497240 B1 EP 1992-101259 19920127; DE 59209269 G DE 1992-509269 19920127, EP 1992-101259 19920127; RU 2100021 C1 SU 1992-5010600 19920127; CZ 284152 B6 CS 1992-230 19920127; ES 2117647 T3 EP 1992-101259 19920127; NO 304055 B1 NO 1992-357 19920127
FDT AU 660442 B Previous Publ. AU 9210457; HU 213678 B Previous Publ. HU 62460; DE 59209269 G Based on EP 497240; CZ 284152 B6 Previous Publ. CS 9200230; ES 2117647 T3 Based on EP 497240; NO 304055 B1 Previous Publ. NO

carboxylic acid hardened fat etc..
DC C03 D13
PA (NIPS) NIPPON SODA CO
CYC 1
PI JP 60141242 A 19850726 (198601)* 4p
JP 04024977 B 19920428 (199221) 5p <--
ADT JP 60141242 A JP 1983-245768 19831229; JP 04024977 B JP 1983-245678 19831229
FDT JP 04024977 B Based on JP 60141242
PRAI JP 1983-245768 19831229; JP 1983-245678 19831229
AN 1986-002398 [01] WPIDS
AB JP 60141242 A UPAB: 19930922
Feed additive compsn. is obtd. by coating a physiologically active substance with a protective substance comprising at least one of 14-22C (branched), (satd.) mono-carboxylic acids, hardened vegetable fats and hardened animal fats and additionally coating the resulting granules with one or more, same or different protective substances.

USE/ADVANTAGE - As the compsns. are doube-coated with protective coatings, they are not deactivated in the 1st stomach, when administered to **ruminants**, and may be digested in the digestive organs after the 4th stomach. Thus the efficient absorption of the contained physiologically active substance from the digestive organs is high. Physiologically active substances are aminoacids (e.g. methionine, lysine), derivs. of aminoacids (e.g. N-acyl-amino acids), proteins (e.g. casein), vitamins, hydrocarbons (e.g. glucose), antibiotics, etc..

The physiologically active substance (100 wt. pts.) and protective substance (50-500 wt. pts.) are blended and melted to form coated granules, which are further coated with the same or different protective substance in an amt. 1-100 wt.% of the granules.
0/0

L49 ANSWER 38 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1985-311788 [50] WPIDS
DNC C1985-134578
TI Improving assimilation of **fodder** by **ruminant** - for fattening by addn. of **sorbitol** (BE 4.12.85).
DC C03 D13
IN CUVELIER, D; DUMONT, M; HUCHETT, M; ROUMET, F
PA (ROQF) ROQUETTE FRERES SA
CYC 7
PI DE 3520010 A 19851205 (198550)* 18p
GB 2159690 A 19851211 (198550)
BE 902585 A 19851204 (198551)
FR 2565071 A 19851206 (198604)
NL 8501511 A 19860102 (198605)
ES 8704328 A 19870616 (198729)
GB 2159690 B 19880427 (198817)
IT 1186726 B 19871216 (199043)
ADT GB 2159690 A GB 1985-14072 19850604; FR 2565071 A FR 1984-8729 19840604; NL 8501511 A NL 1985-1511 19850528; ES 8704328 A ES 1985-544468 19850604
PRAI FR 1984-8729 19840604
AN 1985-311788 [50] WPIDS
AB DE 3520010 A UPAB: 19930925
Assimilation of **fodder** rations by **ruminants** during fattening, opt. with a maintenance period, is optimised by feeding **sorbitol** to the **ruminants** with the normal ration.

Pref. agents for optimising the assimilation of **fodder** during fattening of **ruminants** consists mainly of **sorbitol**. The amt. of **sorbitol** given is 10-200 (80) g/day. The **fodder** contains 0.1-2 (0.3-1.2) wt.% of **sorbitol** and has less than 15 (9-13) wt.% of total nitrogenous matter.

ADVANTAGE - The ratio of **fodder** given:meat produced is improved, and the daily wt. increase of the animal is raised without increased, or even with reduced, **fodder** consumption.
0/0

ABEQ GB 2159690 B UPAB: 19930925
A method enabling the optimisation of the assimilation of the feed ration by **ruminants** during the period during which they are fattened and which period may comprise a maintenance period, particularly the winter season, wherein the **ruminant** is made to ingest, at the same time as the normal foodstuff ration, an amount of **sorbitol** from 20 to 120g per day.

L49 ANSWER 39 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1985-298136 [48] WPIDS
DNN N1985-221959 DNC C1985-128925
TI Mixt. of germinated, fermented seeds - from cereals and leguminous plants, contg. **lactic** bacteria or **lactic** acid, for animal feeding.
DC C03 D13 D16 Q35
IN RICCI, J L; ROPRAZ, C
PA (SCHM-I) SCHMUTZ P A
CYC 9
PI EP 162805 A 19851127 (198548)* FR 41p
R: AT BE DE FR GB IT LU NL
CH 659764 A 19870227 (198710)
EP 162805 B 19870826 (198734) FR
R: AT BE DE FR GB IT LU NL
DE 3560502 G 19871001 (198740)
CH 663516 A 19871231 (198803)
ADT EP 162805 A EP 1985-810170 19850417
PRAI CH 1984-1975 19840419; CH 1984-3190 19840703; CH 1984-6056 19841220
AN 1985-298136 [48] WPIDS
AB EP 162805 A UPAB: 19930925
A mixt. of germinated seeds, contg. germinated, fermented cereal seeds, and germinated, fermented leguminous seeds, is preserved in the moist state by inoculating at least the germinated cereal seeds with **lactic** bacteria chosen for prodn. of **lactic** acid and preservative effect, and/or by an acid.
USE/ADVANTAGE - Is **animal** feeding, esp. **farm animals**, e.g. horses, **cows**, **calves** (claimed), **heifers**, pigs, **goats**, **sheep** and poultry, partic. prodn. of white veal. The process does not involve steeping or forced aeration. The mixt. contains high value nutrients, e.g. sugars, aminoacids, proteins, and pre-digested lipids. Poorly digestible complex glucosides are converted to assimilable sugars, proteins to aminoacids and oligopeptides, and lipids to free fatty acids, sugars, choline and **inositol**. Minerals, oligo-elements and vitamins are converted to assimilable forms. Content of heavy metals, esp. Cu, tannins, coumarine and other mycotoxins is reduced. Enzymes, **lactic** bacteria, and **lactic** acid are introduced.
0/0
ABEQ EP 162805 B UPAB: 19930925
A mixt. of germinated seeds, contg. germinated, fermented cereal seeds, and germinated, fermented leguminous seeds, is preserved in the moist state by inoculating at least the germinated cereal seeds with **lactic** bacteria chosen for prodn. of **lactic** acid and preservative effect, and/or by an acid.
USE/ADVANTAGE - Is **animal** feeding, esp. **farm animals**, e.g. horses, **cows**, **calves** (claimed), **heifers**, pigs, **goats**, **sheep** and poultry, partic. prodn. of white veal. The process does not involve steeping or forced aeration. The mixt. contains high value nutrients, e.g. sugars, aminoacids, proteins, and pre-digested lipids. Poorly digestible complex glucosides are converted to assimilable sugars, proteins to aminoacids and oligopeptides, and lipids to free fatty acids, sugars, choline and **inositol**. Minerals, oligo-elements and vitamins are converted to assimilable forms. Content of heavy metals, esp. Cu, tannins, coumarine and other mycotoxins is reduced. Enzymes, **lactic** bacteria, and **lactic** acid are introduced.

Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
Plant Physiology, Biochemistry and Biophysics - Chemical Constituents 51522
BC **Bovidae 85715**
IT Miscellaneous Descriptors
COW **DAIRY** INDUSTRY **MILK** COMPOSITION
RN 62-49-7 (CHOLINE)
87-89-8Q, 6917-35-7Q (INOSITOL)

L69 ANSWER 8 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1986:445985 BIOSIS
DN BR31:102395
TI EFFECTS OF FEEDING **SORBITOL** ON **MILK** YIELD AND BLOOD CHARACTERISTICS IN **DAIRY** COWS IN EARLY LACTATION.
AU REMOND B; JACQUIER C
CS LABORATOIRE DE LA LACTATION, I.N.R.A., THEIX 63122 CEYRAT, FRANCE.
SO FIRST CONFERENCE ON NUTRITION AND FEEDING OF HERBIVORES, PARIS, FRANCE, MAR. 21-22, 1985. REPROD NUTR DEV. (1986) 26 (1 PART B), 365-366. CODEN: RNDED4. ISSN: 0181-1916.
FS BR; OLD
LA French
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Biochemical Studies - Sterols and Steroids 10067
Biochemical Studies - Carbohydrates 10068
Metabolism - Carbohydrates *13004
Metabolism - Sterols and Steroids *13008
Nutrition - Carbohydrates *13220
Food Technology - Dairy Products *13518
Food Technology - Evaluations of Physical and Chemical Properties 13530
Reproductive System - Physiology and Biochemistry *16504
Animal Production - Feeds and Feeding *26504
BC **Bovidae 85715**
IT Miscellaneous Descriptors
CHOLESTEROLEMIA GLYCEMIA
RN **50-70-4 (SORBITOL)**

L69 ANSWER 9 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1986:109425 BIOSIS
DN BA81:19841
TI **XYLITOL** POLYOL MOLASSES AND GLUCOSE IN THE DIET OF NEWBORN CALVES II. CONTENT OF ANTIMICROBIAL FACTORS IN BLOOD AND SALIVA BACTERIA IN FECES AND HEALTH STATUS.
AU KORHONEN H; ALASAARI E; ANTILA M; TUORI M; POUTIAINEN E
CS MINIST. LIVESTOCK DEV., P.O. BOX 68228, HILL PLAZA, NAIROBI, KENYA.
SO J AGRIC SCI FINL, (1984 (RECD 1985)) 56 (4), 309-324. CODEN: JASFE6.
FS BA; OLD
LA English
AB The concentrations of various antimicrobial factors in the saliva and plasma of newborn calves with special reference to possible effects of a diet supplemented with different **sugar alcohols** were studied. Eighteen calves were assigned alternately at birth to three groups, each comprising six animala. All calves were fed a pooled colostrum diet for the first four days, thereafter whole **milk** plus **milk** replacer. Concentrates and hay were given ad libitum. The diets of the different groups were supplemented with the following test substrates; **xylitol**, polyol molasses or glucose (control). The daily doses of each substrate were progressively increased from 0.5 to 1.0 g/kg of live weight for the last four weeks. Plasma and saliva samples were taken from all calves before colostrum feeding (day 0) and on days 1, 2, 4, 7, 21 and 35 after birth. The following factors were determined quantitatively; lactoferrin (LF), lactoperoxidase (LP), lysozyme (LZM) and immunoglobulins IgG1, IgG2, IgM and IgA (only in plasma). Further determinations included weekly counts of total aerobic bacteria, aerobic

sorbitan mono-oleate; sorbitan monopalmitate and propylene glycol alginate.

USE/ADVANTAGE - The fed prod. can be used as a calcium supplement to **livestock** feed, eg. horse feed which has been manufactured in pellet form as pelleting limits vitamin and mineral content, esp. calcium to unacceptably low levels. The calcium feed prod. is essentially dust-free and has reduced antistatic properties and therefore the explosion hazard is reduced. Efficient mixing of the additive with the feed prod. is greatly simplified, while not detracting from its value as a feed. The blend is of uniform composition, can be vitamin and mineral enriched, is free-flowing and has desirable handling properties.
Dwg.0/0

L49 ANSWER 15 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1993-368289 [46] WPIDS
DNC C1993-163401
TI Improving animal meat quality, esp. water retention - by adding **glycerol** or deriv. to feed or drinking water, esp. for treatment of pigs.
DC D13 E17
IN AUMAITRE, L A; FRANCOIS, A; JAMET, J; MOUROT, J; PEYRONNET, C
PA (FRAN-I) FRANCOIS A; (INRG) INRA INST NAT RECH AGRONOMIQUE; (ONID-N) ONIDOL ORG NAT INTERPROFESSIONNELLE
CYC 20
PI WO 9321782 A1 19931111 (199346)* FR 43p <--
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: CA HU PL US
FR 2690314 A1 19931029 (199350) 33p <--
EP 637917 A1 19950215 (199511) FR <--
R: BE DE DK ES FR IT NL
ADT WO 9321782 A1 WO 1993-FR402 19930423; FR 2690314 A1 FR 1992-5115 19920424; EP 637917 A1 EP 1993-911821 19930423, WO 1993-FR402 19930423
FDT EP 637917 A1 Based on WO 9321782
PRAI FR 1992-5115 19920424
AN 1993-368289 [46] WPIDS
AB WO 9321782 A UPAB: 19940103
Treatment comprises incorporating **glycerol** (and/or its precursors and/or metabolites) in feedstuff and/or drinking water. Treatment is carried out at the end of the growth period, for 2-6 (pref. 3) weeks before slaughter. Pref. the total **glycerol** concn. is 1-10 (esp. ca. 5) wt.% of the feedstuff and/or drinking water.

USE/ADVANTAGE - Treatment of meat animals (esp. Suidae, turkeys, **milk cows**, **calves**, laying hens or geese), improves meat quality. Water retention capacity of the meat is increased, so that bonded water is not released by dripping or on cooking. Weight loss on cooking (e.g. of ham) is reduced.

In an example, tests were carried out on Large White porkers raised on feedstuffs based on corn and soya oil cake (17% protein, 0.86% lysine, 4% total lipids), in amts. increasing from 1.9 kg/day (at animal wt. 36-40 kg) to 2.8 kg/day (at 75-100 kg). Results showed that addn. of 5% **glycerol** to the feedstuff improved the meat quality (by reducing wt. loss by dripping and on cooking) without affecting growth or causing hyperlipaemia.
Dwg.0/3

L49 ANSWER 16 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1993-001679 [01] WPIDS
DNC C1993-000696
TI Pelleted compsns. for cattle - contg. components protected from attack in the rumen, and components that are not protected.
DC A96 A97 B07 C07 D13
IN LAFFAY, J; RUEL, J; SABATIER, A
PA (RHON) RHONE POULENC NUTRITION ANIMALE
CYC 20
PI EP 520890 A1 19921230 (199301)* FR 10p <--
AU 9218524 A 19930107 (199308) <--

FR 2678145 A1 19921231 (199309) 16p <--
CA 2072459 A 19921229 (199311) FR
ZA 9204749 A 19930331 (199320) 24p <--
NZ 243341 A 19930526 (199324) <--
JP 05184309 A 19930727 (199334) 7p <--
AU 654014 B 19941020 (199443) <--
EP 520890 B1 19961211 (199703) FR 9p <--
R: AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE
DE 69215770 E 19970123 (199709) <--
ES 2094315 T3 19970116 (199710) <--
ADT EP 520890 A1 EP 1992-401790 19920625; AU 9218524 A AU 1992-18524 19920625; FR 2678145 A1 FR 1991-8044 19910628; CA 2072459 A CA 1992-2072459 19920626; ZA 9204749 A ZA 1992-4749 19920626; NZ 243341 A NZ 1992-243341 19920626; JP 05184309 A JP 1992-191319 19920626; AU 654014 B AU 1992-18524 19920625; EP 520890 B1 EP 1992-401790 19920625; DE 69215770 E DE 1992-615770 19920625, EP 1992-401790 19920625; ES 2094315 T3 EP 1992-401790 19920625
FDT AU 654014 B Previous Publ. AU 9218524; DE 69215770 E Based on EP 520890; ES 2094315 T3 Based on EP 520890
PRAI FR 1991-8044 19910628
AN 1993-001679 [01] WPIDS

AB EP 520890 A UPAB: 19931118
Feed supplements and/or medicaments for **ruminants** are in the form of pelleted compositions contg. two types of active ingredients (a) those that are not protected from degradation in the rumen (I), and (b) those in granular form that are protected from degradation in the rumen (II) and which liberate their active ingredients in the **abomasum** or intenstines, are obtd. by mixing and shaping (I) with granules of (II) and a binder (III) which is soluble, crosslinkable or meltable, and opt. a release agent and/or a charge.

Protected ingredients (II) include vitamins, amino acids and medicaments, which may be protected by a pH sensitive copolymer, natural prod., or a prod. that undergoes enzymic degradation. Binders include vinyl pyridine-styrene copolymers with a hydrophobic material, zein, and chitosan. The granules of (II) are pref. 0.3-5mm in dia., esp. 0.5-3mm. The unprotected ingredient (I) may be minerals, trace elements, vitamins, glucose, fatty acids, yeasts, growth factors, enzymes, microbial flora, fungi, peptides, sodium carbonate, **sorbitol**, propylene glycol, betaine and sodium propionate.

Crosslinkable binders (III) include alginates, gelatins, cellulose derivs., polysaccharides and molasses. These may be crosslinked using aldehydes (for the proteins), salts and oxides of di- and tri-valent metals (for the alginates, xanthane gum and molasses). Suitable fusible binders (III) include fatty acids and alcohols, **glycerol** esters, polyethylene glycols, paraffins, natural or synthetic waxes, and hydrogenated animal or vegetable fats. Optional release agents include flours, ground cattle cake, brewing and fermentation residues, cereal and wood by-prods., and cellulosic fibres.

ADVANTAGE - Pelleting takes place under mild conditions, giving a uniform prod. that is miscible with conventional granular feeds in all proportions, loss of protection through mechanical destruction is reduced, and the unprotected ingredients (I) are rapidly liberated in the rumen while the protected ingredients (II) are not liberated until later.
Dwg.0/0

ABEQ ZA 9204749 A UPAB: 19931113
The pellets comprise: (i) an active ingredient which is uprotected against degradation in the rumen; (ii) a granular active ingredient which is protected against degradation in the rumen, but which is released in the **abomasum** and/or in the intestine; (iii) a soluble or meltable, and opt. crosslinkable binder, and opt. a disintegrating agent and/or a filler. The pellets are suitable for use as a feed and/or medicinal supplement for **ruminants**.

ABEQ EP 520890 B UPAB: 19970115
Compositions in the form of ''pellets'' containing active ingredients unprotected against degradation in the rumen; with the exception of one or more of the following compounds; water-soluble cellulose derivatives,

polysaccharides, **sugars**, molasses, vinasses, lignosulphonates, grain or algal meals, crystallisable inorganic compounds, gelatins, tanned proteins, polyvalent cation salts of polyacids, drying oils mastics, fatty acids or **alcohols**, hydrogenated animal and vegetable fats, **glycerol** esters, paraffins, natural or synthetic waxes, synthetic polymers, silica, silicates, talc, clays, calcium carbonates, phosphates, residues of the cereal and timer industries, ground oil-cakes, brewery and fermentation residues, cellulosic plant fibres; combined with granular active ingredients with a mean diameter of between 03 and 5 mm, protected against degradation in the rumen but degradable through the combined action of heat and pressure during pelletisation, used for feed and/or medicinal supplementation for **ruminants**, which release the said protected active ingredients in the rennet-stomach and/or in the intestine, characterized in that they are obtained by mixing and shaping the active ingredient or ingredients unprotected with respect to the rumen, the active ingredient protected in granular form and a binder chosen from binders and which can be solubilised, crosslinked or melted and, optionally, a disintegrating agent and/or a filler.
Dwg.0/0

L49 ANSWER 17 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1992-260699 [32] WPIDS
DNC C1992-116412
TI Agent for oral application to **ruminants** - contains an active ingredient, wax, powdered weighting agent and a **sugar**, **sugar alcohol**, water soluble cellulose ether or polyethylene glycol.
DC B07 C07 P32 P33 P34
IN DUWEL, D; HORNYKIEWYTSCH, T; DUEWEL, D; HORNYKIEWTSCH, T; HORNYKIEWYTSSCH, T
PA (FARH) HOECHST AG
CYC 28
PI EP 497240 A1 19920805 (199232)* DE 16p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE
NO 9200357 A 19920729 (199240)
CA 2060066 A 19920729 (199242)
FI 9200324 A 19920729 (199243)
BR 9200252 A 19921006 (199245)
ZA 9200573 A 19920930 (199245) 24p
CS 9200230 A2 19920812 (199305)
HU 62460 T 19930528 (199326)
US 5252561 A 19931012 (199342) 10p
NZ 241391 A 19940427 (199420)
RO 108297 B1 19940429 (199517)
AU 660442 B 19950629 (199533)
HU 213678 B 19970929 (199813)
EP 497240 B1 19980408 (199818) DE 18p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE
DE 59209269 G 19980514 (199825)
RU 2100021 C1 19971227 (199835) 10p
CZ 284152 B6 19980812 (199839)
ES 2117647 T3 19980816 (199839)
NO 304055 B1 19981019 (199848)
ADT EP 497240 A1 EP 1992-101259 19920127; NO 9200357 A NO 1992-357 19920127; CA 2060066 A CA 1992-2060066 19920127; FI 9200324 A FI 1992-324 19920124; BR 9200252 A BR 1992-252 19920127; ZA 9200573 A ZA 1992-573 19920128; CS 9200230 A2 CS 1992-230 19920127; HU 62460 T HU 1992-249 19920127; US 5252561 A US 1992-824933 19920124; NZ 241391 A NZ 1992-241391 19920124; RO 108297 B1 RO 1992-200008 19920123; AU 660442 B AU 1992-10457 19920124; HU 213678 B HU 1992-249 19920127; EP 497240 B1 EP 1992-101259 19920127; DE 59209269 G DE 1992-509269 19920127, EP 1992-101259 19920127; RU 2100021 C1 SU 1992-5010600 19920127; CZ 284152 B6 CS 1992-230 19920127; ES 2117647 T3 EP 1992-101259 19920127; NO 304055 B1 NO 1992-357 19920127
FDT AU 660442 B Previous Publ. AU 9210457; HU 213678 B Previous Publ. HU 62460; DE 59209269 G Based on EP 497240; CZ 284152 B6 Previous Publ. CS 9200230; ES 2117647 T3 Based on EP 497240; NO 304055 B1 Previous Publ. NO

9200357
PRAI DE 1991-4113146 19910423; DE 1991-4102395 19910128
AN 1992-260699 [32] WPIDS
AB EP 497240 A UPAB: 19981028
An agent for oral application to **ruminants** contains 0.001-75 wt.% of at least one active ingredient, 3-75 wt.% wax, 25-90 wt.% powdered weighting agent and 0-30 wt.% of at least one physiologically acceptable **sugar**, **sugar alcohol**, water-soluble cellulose ether or polyethylene glycol.

USE/ADVANTAGE - A wide range of active ingredients can be used so the agent can be used for the oral prophylaxis and/or treatment of diseases or to influence the growth, metabolism, body wt., tissue compsn. and/or feedstuff utilisation. The agent ensures optimal levels of active ingredient in the blood during the period of application, enables low doses to be given and saves work and money for the keepers of the animals. The development of resistance or dependence, residues of active ingredients, waiting time, tissue irritation, and the existence of a foreign body after use are all avoided. The agent is simple and safe to apply and there are no side effects. The agent is esp. suitable for application of active ingredients which are applied for long periods of tim

Dwg.0/3
ABEQ US 5252561 A UPAB: 19931202
A new controlled release oral compsn. for **ruminants** comprises fused granules contg. 0.001-75% wt. of therapeutically active substance(s), 3-75% wt. wax, 25-90% wt. powdered weighting agent and 0-30% wt. of **sugar**, **sugar alcohol**, water-soluble cellulose ether or polyethylene glycol.

Opt. present are surfactant, lubricant mould release agent and mechanical agent. Active agents include antiparasites, nutrients, metabolism and endocrine controllers for growth and feed utilisation).

Included are phosphoglycolipids, flavophospholipol, salinomycin and benziomidazoles. The weighting agent may be Fe powder. The moulded articles are coated for release during a fixed period. Total vol. is 0.5-200 cm3.

USE - Control of disease e.g. caused by helminths in **ruminants** and to supply deficient substances and regulate metabolism.

Dwg.0/3
ABEQ EP 497240 B UPAB: 19980507
An agent for oral application to **ruminants** contains 0.001-75 wt.% of at least one active ingredient, 3-75 wt.% wax, 25-90 wt.% powdered weighting agent and 0-30 wt.% of at least one physiologically acceptable **sugar**, **sugar alcohol**, water-soluble cellulose ether or polyethylene glycol.

USE/ADVANTAGE - A wide range of active ingredients can be used so the agent can be used for the oral prophylaxis and/or treatment of diseases or to influence the growth, metabolism, body wt., tissue compsn. and/or feedstuff utilisation. The agent ensures optimal levels of active ingredient in the blood during the period of application, enables low doses to be given and saves work and money for the keepers of the animals. The development of resistance or dependence, residues of active ingredients, waiting time, tissue irritation, and the existence of a foreign body after use are all avoided. The agent is simple and safe to apply and there are no side effects. The agent is esp. suitable for application of active ingredients which are applied for long periods of time.

Dwg.1/2

L49 ANSWER 18 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1992-185337 [23] WPIDS
TI Improving growth and feed efficiency domestic animals - comprises administering phenylalkyl amino deriv. and so improving muscle fat ratio without affecting the animals heart.
DC B05 C03 D13
IN VAN, DASLER J K; VAN, DIJK J

PRAI US 1990-586765 19900921; US 1990-498561 19900323
AN 1991-289814 [40] WPIDS
CR 1991-289815 [40]
AB EP 449375AN 1 UPAB: 20000522
The following are claimed: (A) a method for the prodn. of transgenic plants or plant organs contg. an enhanced amt. of a phytase comprising transforming a plant host with an expression construct contg. DNA sequence encoding the phytase operably linked to regulatory sequences capable of directing the expression of the phytase in the plant and growing the transformed plant under conducive conditions so phytase-encoding DNA sequence is expressed; (B) an expression construct comprising a DNA sequence encoding a phytase operably linked to a regulatory sequence capable of directing the constitutive expression of the phytase; (C) a vector contg. an expression construct as in (B); (D) a bacterial strain contg. a vector as in (C); (E) an expression construct comprising a DNA sequence encoding a phytase etc.

USE/ADVANTAGE - Plants are plant organs contg. the phytase or phytase purified from them can be used in industrial processes requiring the action of a phytase. The phytase can produce **inositol** or insitol-phosphates from phytate. It can be used as a feed additive for non-**ruminants** to promote growth and also to reduce the phosphorus content of the animal manure. It can also be used in e.g. soy processing, in the starch and fermentation industries and in steeping of corn or sorghum kernels. @(28pp Dwg.No.0/8)

ABEQ US 5593963 A UPAB: 19970228
A recombinant expression system capable, when contained in a higher plant cell or the cells of an intact higher plant, of expressing a first nucleotide sequence encoding a microbial protein which catalyzes the liberation of inorganic phosphate from myo-**inositol** hexakis-phosphate,

said expression system comprising said first nucleotide sequence encoding said protein operably linked to transcription controlling nucleotide sequences operable in a higher plant cell or in the cells of a higher plant.
Dwg.1/11

L49 ANSWER 21 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1991-209985 [29] WPIDS
DNC C1991-091056
TI Pellets for feeding to **ruminants** ¬ that do not degrade in the rumen, contg. feed supplements and medicaments.
DC A96 B07 C03 D13 D16
IN ANNONIER, C; AUTANT, P; PORTE, H; RUEL, J
PA (RHON) RHONE-POULENC NUTRITION ANIMALE; (RHON) RHONE-POULENC NUTRI
CYC 25
PI EP 437388 A 19910717 (199129)* 11p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
AU 9068450 A 19910711 (199135)
CA 2033234 A 19910629 (199136)
~~FR 2656772~~ A 19910712 (199137) 11p
CS 9100033 A 19910915 (199148)
ZA 9100171 A 19911127 (199201)
CN 1053186 A 19910724 (199217)
JP 04218342 A 19920807 (199238) 8p <--
HU 60902 T 19921130 (199302) <--
AU 643722 B 19931125 (199403) <--
EP 437388 B1 19940330 (199413) FR 11p <--
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69101490 E 19940505 (199419) <--
IL 96899 A 19940826 (199435) <--
ES 2062697 T3 19941216 (199505) <--
IE 65337 B 19951018 (199603) <--
RU 2041643 C1 19950820 (199618) 5p <--
CZ 280981 B6 19960515 (199627) <--
CA 2033234 C 19961112 (199705) FR <--
ADT EP 437388 A EP 1991-400020 19910108; AU 9068450 A AU 1990-68450 19901227;

FR 2656772 A FR 1989-17305 19891228; ZA 9100171 A ZA 1991-171 19910109; JP 04218342 A JP 1991-11545 19910108; HU 60902 T HU 1991-40 19910108; AU 643722 B AU 1990-68450 19901227; DE 69101490 E DE 1991-601490 19910108, EP 1991-400020 19910108; IL 96899 A IL 1991-96899 19910107; ES 2062697 T3 EP 1991-400020 19910108; IE 65337 B IE 1990-4724 19901228; RU 2041643 C1 SU 1991-4894258 19910109; CZ 280981 B6 CS 1991-33 19910108; CA 2033234 C CA 1990-2033234 19901227

FDT AU 643722 B Previous Publ. AU 9068450; DE 69101490 E Based on EP 437388; ES 2062697 T3 Based on EP 437388; CZ 280981 B6 Previous Publ. CS 9100033

PRAI FR 1989-17305 19891228

AN 1991-209985 [29] WPIDS

AB EP 437388 A UPAB: 19980701

Pellets contg. an active ingredient that is protected against degradation in the rumen, and which is liberated in the **abomasum** and/or intestines, are obtd. by mixing protected granules of the active material with a binder that is solubilisable, cross-linkable, or fusible, and opt. a liberating agent and a filler.

The active ingredient may be a vitamin, amino acid, or medicament, typically methionine, lysine, vitamins and antibiotics. Two types of binders may be used, those used with a solvent or dispersing agent, and those which are fusible. The first type include cellulose derivatives, polysaccharides, **sugars**, lignosulphonates, flours, gelatines, etc. Fusible binders that may be used include fatty acids and **alcohols**, hydrogenated animal or vegetable fats, **glycerol** esters, paraffins, waxes, polyethylene glycols, and polyvinyl acetate.

USE/ADVANTAGE - Feed supplements and medicines for cattle and other **ruminants**. The pellets may contain heat-sensitive materials that cannot be formed into pellets by conventional means (steam heat and extrusion) without degradation.

Dwg.0/0

ABEQ EP 437388 B UPAB: 19940517

Compositions in the form of ''pellets'' containing granular active principles protected against degradation in the rumen but which are degradable through the joint action of heat and pressure, used for the nutritional and/or medicinal supplementation of **ruminants**, releasing the said active principles in the **abomasum** and/or the intestine, characterise din that they are obtained by mixing and shaping the protected active principle in granular form and a binding agent selected from binding agents capable of being solubilised, crosslinked or melted, and optionally a disintegrating agent and/or a filler.

Dwg.0/0

L49 ANSWER 22 OF 71 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

AN 1990-269204 [36] WPIDS

DNC C1990-116353

TI Sustained release bolus for treating **ruminants** - comprises specified amts. of LLF28249-alpha, 23-(O-methyloxime)LL-F28249 alpha or its derivs., etc..

DC B02 C02

IN DIETZ, J C; TOOTHILL, R B; WOOD, I B

PA (AMCY) AMERICAN CYANAMID CO

CYC 28

PI EP 385106 A 19900905 (199036)* 20p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
AU 9050522 A 19900906 (199043)
CA 2010934 A 19900831 (199046)
HU 53287 T 19901029 (199049)
JP 02268115 A 19901101 (199050)
ZA 9001497 A 19901128 (199102)
CN 1045228 A 19900912 (199121)
CS 9000904 A 19910813 (199146)
NZ 232607 A 19930526 (199324)
EP 385106 B1 19940323 (199412) EN 23p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69007515 E 19940428 (199418)
IL 93226 A 19940227 (199419)

L69 ANSWER 14 OF 16 BIOSIS COPYRIGHT 2000 BIOSIS
AN 1982:183914 BIOSIS
DN BA73:43898
TI A **POLYOL** MIXTURE IN THE DIET OF **DAIRY** COWS.
AU MAKINEN K K; HAMALAINEN M; TUORI M; POUTIAINEN E
CS DEP. BIOCHEM., INST. DENTISTRY, UNIV. TURKU, TURKU.
SO NUTR REP INT, (1981) 23 (6), 1077-1088.
CODEN: NURIBL. ISSN: 0029-6635.
FS BA; OLD

LA English
AB The effect of polyol feeding was studied with 24 lactating cows divided into 3 groups of 8 for 11-wk. One group was fed a barley-oat feed concentrate; the 2nd, the same feed supplemented with dried molasses-treated beet pulp; and the 3rd, the last mentioned feed but with molasses replaced by a mixture of polyols (chiefly comprising **xylitol**, **arabinitol**, **mannitol**, **sorbitol**, **rhamnitol** and **galactitol**), 483 g of the mixture/head per day. Serum, **milk**, whole saliva and lacrimal fluid samples were analyzed before the onset of the dietary phase, and biweekly during the feeding of the diets. The serum parameters studied (protein, transaminases, .alpha.-amylase, alkaline phosphatase, cholesterol, glucose, icterus index, total sialic acids, amino acids, inorganic P (Pi), Na, K, Ca, Mg and Fe) did not differ significantly between the groups. The same was true for whole saliva lactoperoxidase (LPO), protein and .alpha.-amylase, lacrimal fluid LPO, protein and amino-peptidase, and the **milk** parameters LPO, protein, glucose, Pi, Na, K, Ca, Mg and Fe. The polyol mixture is apparently safe, making it a useful additive in the feeding of **dairy** cows.
CC Biochemical Studies - General 10060
Enzymes - Methods 10804
Enzymes - Physiological Studies 10808
Metabolism - General Metabolism; Metabolic Pathways 13002
Metabolism - Minerals 13010
Nutrition - General Studies, Nutritional Status and Methods *13202
Nutrition - Lipids *13222
Food Technology - Dairy Products 13518
Food Technology - Evaluations of Physical and Chemical Properties 13530
Digestive System - Physiology and Biochemistry *14004
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002
Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids 15010
Animal Production - Feeds and Feeding *26504
Agronomy - Forage Crops and Fodder 52506
BC Gramineae 25305
Chenopodiaceae 25795
Bovidae 85715
IT Miscellaneous Descriptors
BARLEY OAT CONCENTRATE BEET PULP DRIED MOLASSES SERUM **MILK** SALIVA LACRIMAL FLUID **XYLITOL ARABINITOL MANNITOL SORBITOL RHAMNITOL GALACTITOL** PROTEIN TRANS AMINASE ALPHA AMYLASE ALKALINE PHOSPHATASE CHOLESTEROL GLUCOSE SIALIC-ACID AMINO PEPTIDASE INORGANIC PHOSPHORUS SODIUM POTASSIUM CALCIUM MAGNESIUM IRON LACTO PEROXIDASE
RN **50-70-4 (SORBITOL)**
50-99-7 (GLUCOSE)
57-88-5 (CHOLESTEROL)
87-99-0 (XYLITOL)
608-66-2 (GALACTITOL)
2152-56-9 (ARABINITOL)
7439-89-6 (IRON)
7439-95-4 (MAGNESIUM)
7440-09-7 (POTASSIUM)
7440-23-5 (SODIUM)
7440-70-2 (CALCIUM)
9000-90-2 (ALPHA AMYLASE)
9001-78-9 (ALKALINE PHOSPHATASE)
9003-99-0 (LACTO PEROXIDASE)
9031-66-7 (TRANS AMINASE)
9031-94-1 (AMINO PEPTIDASE)